

# **Decreasing German Climate Ambitiousness: simply due to economic problems or do politics matter?**

*Measuring and Explaining Changes in German Climate Policy Strength  
2000-2005*

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# Preface

I became interested in German climate policy, and especially the implementation of the EU emissions trading scheme during my stay in Berlin in 2005. Here, I followed a very interesting seminar at the Free University. This seminar was led by Professor Lutz Mez, Professor Franz Josef Schafhausen, Professor Felix Christian Matthes and Professor Hans Joakim Ziesing.

This thesis owes its completion to a number of persons. Thanks to my supervisor Professor Per Kristen Mydske at the University of Oslo for enthusiasm and for constructive discussions, and warm thanks to Jørgen Wettstad, Senior Research Fellow at the Fridtjof Nansen Institute, his considerable support and constructive critical feedback during the whole process has been invaluable. Many thanks to the Fridtjof Nansen Institute for advice, for financial support, and working facilities. I am also grateful to Professor Lutz Mez (Free University), Professor Jochen Diekmann (German Institute for Economic Research, DIW Berlin), and Professor Hermann Ott (Wuppertal Institute) for sharing their knowledge. I would like to thank the interviewees for their time and reflections on German climate policy. Without their valuable reflections, this thesis could not have been written. Thanks to the Norwegian Research Council and the EO.N Ruhrgas Scholarship Program in Political Science for financial support for going on an interview trip to Bonn/Berlin. Thanks to the young researchers at “Lysthuset” and Elin for providing valuable comments on drafts and a very pleasant working environment. Thanks fellow German emission trading students, Sibyl Steuwer and Friedrike Behr, for information and people to contact. Thanks to Point Carbon for sharing information and contacts. Thanks to Hanne for always being helpful. Last but not least, thanks to Knut Are. This master thesis contains 34.739 words. There are bound to be shortcomings for these I take full responsibility.

Lysaker, 30 October, 2006

Therese H. Karlseng



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## List of Abbreviations and acronyms

AGE	Inter-ministerial working group on emissions trading
BAU	Business as usual
BDI	The Federation of German Industries
BMU	Ministry of Environment
BMWi,(BMWA)	Ministry of Economics (and Labour)
BSA	The EU Burden-Sharing Arrangement
BUND	Friends of the Earth Germany
CAP	The total amount of emission allowances to be allocated under the EU emissions trading scheme
CDU/CSU	Christian Democratic Party
CHP	Combined Heat and Power
CO <sub>2</sub>	Carbon Dioxide
COP	Conference of the Parties
DEHSt	The German Emissions Trading Authority
DIW Berlin	German Institute for Economic Research
EEG	The Renewable Energies Act
EHkostV	The Cost Ordinance, one of two laws and two ordinances transposing the EU emissions trading directive
ENGOS	Environmental Non-Governmental Organisations
EU ETS	The EU Emissions Trading Scheme
FDP	The Liberal Party
GDP	Gross Domestic Product
GHG	Greenhouse gases
IMA	Inter-ministerial working group
NAP	National Allocation Plan
RWI	Rheinish-Westfälisches Institute for economic research
SPD	The Social Democratic Party
TEHG	The Greenhouse gas Emissions Trading Law, transposing the EU emissions trading directive
UNFCCC	United Nations Framework Convention on Climate Change
VCI	The Chemical Industry Federation
VAs	Voluntary Agreements between German industry and the federal government
WWF	World Wide Found for Nature
ZuG 2007	The Allocation Law 2005-2007, transposing the EU emissions trading directive
ZuV	The Allocation Ordinance, transposing the EU emissions trading directive

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# 1 Introduction

This chapter commences with a presentation of the thesis' motivation and the scientific research questions. After this, the analytical approach i.e. the research design, theory strategy, explanatory factors and method will be presented. The final section outlines the structure of the rest of the thesis.

## 1.1 Measuring and Explaining Changes in German Climate Policy Strength 2000-2005

The purpose of this thesis is to measure and explain changes in *German climate policy strength from 2000 to 2005*. Why then study developments in *national climate policy strength*? Surprisingly, there is not much literature on measuring and explaining national climate policy strength. From the field of international relations, there is an impressive amount of literature on regime effectiveness. Why is not much effort made in grasping how a strong national climate policy can be understood? – and in explaining why a national policy is strong or not strong? I find it important to make a contribution to this.

Why study climate policy strength developments in *Germany*? There are many reasons why this is interesting. First Germany is a large important EU-country. Germany was that EU country with the largest emissions in 1990 and the 4 largest emissions among the Annex 1 countries to the Kyoto Protocol (Hasselmeier and Wettstad 2000: 1). Hence, a change in German climate policy strength will send important signals to other EU countries. Moreover, Germany has been seen as one of the climate front-runners. Looking at emissions data, Germany is indeed the leader among OECD countries in reducing emissions of the Kyoto greenhouse gases (GHG)<sup>1</sup> by over 18%

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<sup>1</sup> The Kyoto Protocol covers a basket of six greenhouse gases: carbon dioxide (CO<sub>2</sub>), nitrous oxide (N<sub>2</sub>O), methane (CH<sub>4</sub>), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfurhexafluoride (SF<sub>6</sub>).

between 1990 and 2000 (Michaelowa 2003: 31). Germany's climate leadership started already during the period 1987–1994 when Töpfer was the minister of the environment (Jänicke et al. 2003: 32). Given the long front-runner tradition of Germany, it is interesting to detect and explain a potential change in this. Furthermore, given that a change has taken place, it is interesting to evaluate which factors influence the climate policy strength of large EU countries such as Germany. Are changes in German climate policy strength mostly explained by internal developments? Are external developments such as changes in EU policy not so important for large countries such as Germany? Moreover, if it is so that EU policy influences German climate policy strength, through which mechanisms is this influence exerted?

*Why study the period 2000-2005?* The Kyoto Protocol of 1997 is a milestone in international climate policy where developed countries received quantitative emissions reduction targets and timetables for the first time (Oberthür and Ott 1999: 95). As an EU country, Germany is also under the EU Burden-Sharing Arrangement (BSA) of June 1998. This arrangement sub-divides the EU-15 Kyoto target of 8% greenhouse gas reduction into differentiated targets for each member state which take account of their different national circumstances (ibid.)<sup>2</sup>. The 2000 national climate program<sup>3</sup> was the first systematic expression of German climate policy after the EU BSA. This program was regarded as ambitious (Schafhausen 2004). However, when the next national climate program commenced in 2005, the government was confronted with accusations of climate policy slow-down (BMU 2005a: 1). Are these accusations supported by empirical facts?

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<sup>2</sup> The Article 4 of the Kyoto Protocol enables countries with reduction commitments to make a bubble (UNFCCC 1997). That means they can fulfil their emissions targets jointly by pooling their emissions in a common bubble. The EU has used this provision to make an EU-15 bubble and an internal burden-sharing arrangement within this bubble. This will be elaborated on in section 2.3.2.

<sup>3</sup> The climate programs give an overview over German climate targets and policy instrument that are or will be introduced. They are to be made each three years by the federal government. However, the 2005 program was delayed by two years.

If it has come to a climate policy slow-down, which developments in the period may have caused such a change? Many studies<sup>4</sup> have shown that a sizeable amount of German emissions reductions were due to “wall fall profits”<sup>5</sup>. Can changing economic conditions such as increasing abatement costs explain a potential slow-down? Or must political and institutional factors also be taken into account? For instance, the EU Emissions Trading Scheme (EU ETS)<sup>6</sup> was introduced in this period. The EU ETS Directive<sup>7</sup> was agreed upon in June 2003, and adopted in October the same year. On January 1, 2005 the worlds first large-scale greenhouse gas emission trading scheme was launched covering around 12.000 installations in 25 countries (Pew center 2005: 1). This scheme has been called a grand policy experiment<sup>8</sup> and was introduced to ensure that EU as a whole and each individual EU country could have a realistic chance of reaching their targets under the Kyoto protocol and the BSA (Butzengeiger and Michaelowa 2004: 117, Wettstad 2005: 17). The period 2005-2007 of the emissions trading scheme is a pilot phase before the Kyoto period 2008-2012. Can the introduction of emissions trading have influenced German climate policy strength?

Based on the discussion above it is interesting to investigate two research questions:

*Has there been a change in German climate policy strength from 2000-2005?*

*If so, what has caused this change?*

<sup>4</sup> Hasselmeier and Wettstad 2000, Eichhammer et al. (2001), Michaelowa 2003, Mez and Watanabe 2004, to mention some.

<sup>5</sup> After reunification, achieving emission reductions were relatively easy. East German industry was very inefficient and competition led to installation shut-downs. Moreover, the marginal costs of energy efficiency abatement were low.

<sup>6</sup> The ETS will be discussed more in section 3.4 on the 2004 NAP/2005 climate program.

<sup>7</sup> “The EU ETS Directive” is short for “Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending the Council directive 96/61/EC”

<sup>8</sup> see for instance Krüger and Pizer 2004.

## 1.2 Analytical Approach

This study is a theoretical interpretive single case study<sup>9</sup>. The objective is to describe and interpret changes in German climate policy strength from 2000-2005. In order to explain potential developments, explanatory factors<sup>10</sup> derived from different theories will be used. This study follows a complementary theory strategy (Roness 1997: 91). The focus is on what different factors can explain jointly. Hence, a set of explanatory factors are chosen which aims to give a comprehensive understanding of the changes in German climate policy.

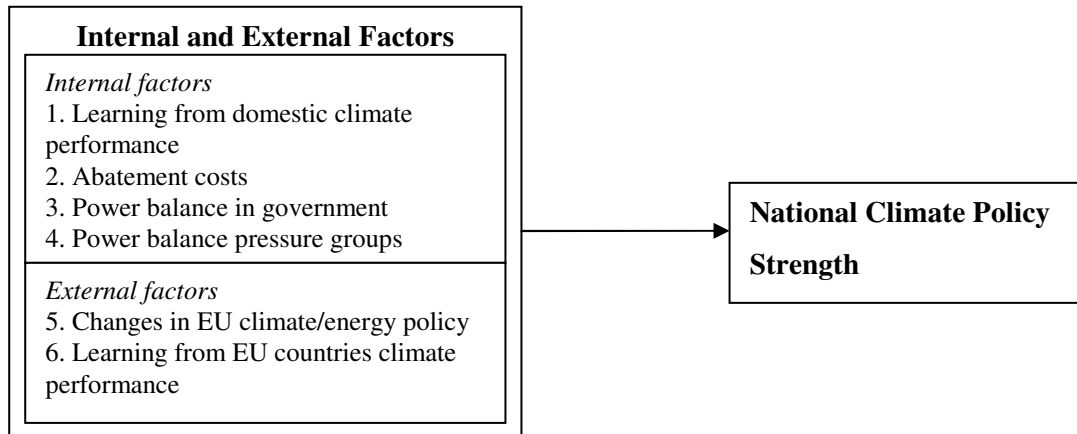
This thesis makes an analytical distinction between internal (relations in Germany) and external factors (factors outside Germany). Four internal factors are regarded as important since Germany is a large country. These are: learning from domestic climate performance, changes in abatement costs, and changes in power balance between Green and Grey forces within the government and between Green and Grey societal pressure groups. However, even if Germany is a large country, it is unrealistic to assume that German climate policy is determined in complete isolation from its environment, such that a number of external factors should be investigated. Two external factors are considered to be potentially important: changes in EU climate/energy policy and learning from climate performance of other EU countries.

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<sup>9</sup> This concept is taken from Andersen 1997. The motivation of such studies is to understand the empirical case by using generalizations (theory) to shed light on the case chosen (Andersen 1997: 68-69).

<sup>10</sup> In this thesis “factors”, “explanatory factors” and “independent variables” are used synonymously.

The following figure illustrates the explanatory factors studied.



**Figure 1-1 Explanatory factors of this study**

The main objective of this study is to understand changes in German climate policy strength i.e. *empirical changes*. However, a theory-interpretive case study may lead to theoretical reflections. In the concluding chapter another explanatory model, which takes into account the relationship between the factors, will be presented. This model is arrived at through induction, and it is suggested that this could be an approach to investigating changes in national climate policy strength in a later study.

In order to answer the research questions interviews and document studies are used. Moreover, multiple sources of information are used. This is done because investigation of different aspects (different factors, the dependent variable) calls for different sources. Moreover, multiple sources of evidence enables cross checking information.

### 1.3 The Road Map of the Thesis

The structure of the thesis will roughly follow the explanatory model presented above. Chapter 2 discusses the analytical framework and the explanatory model will be elaborated as the framework unfolds. Moreover, in this chapter the delimitations of this study will be discussed. First, the understanding of the dependent variable –

national climate policy strength – is outlined. Then the theory strategy and the independent variables are presented. At the end of the chapter, the empirical material will be presented and its reliability and validity will be discussed.

Chapter 3 addresses the first research question: Has there been a change in German climate policy strength from 2000 to 2005? Thus, the focus will be on establishing a baseline. The 2000 and 2005 climate policy strength will be assessed and the change from 2000 to 2005 will be scored. Lastly the scores on the dependent variable will be interpreted and it will be made clear which scores that will be explained.

Chapter 4 focuses on the second research question: What has caused the change in German climate policy strength? – that is the scores presented in the last part of the third chapter. This chapter maps changes in the explanatory factors and analyses whether the factors, both separately and jointly, can shed light on the changes in the dependent variable.

Chapter 5 sums up the discussion and draws some conclusion. Moreover, the analytical approach of this study will be assessed. Lastly, a future interesting research topic is presented.

Chapter 6 contains a brief epilogue. The epilogue is included because a quite dramatic event took place after the period under investigation: in May 2006 the EU emission trading scheme was thrown into chaos. The epilogue seeks to shed some light on this event, by using the findings of this study.

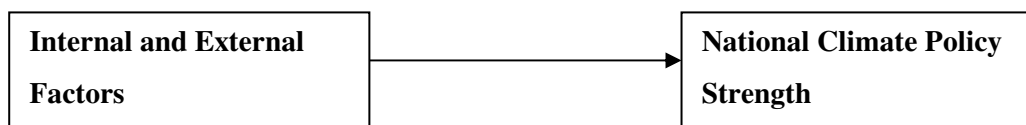


## 2 Analytical Framework

### 2.1 Introduction

The purpose of this thesis is to measure and explain changes in German climate policy strength. As has been pointed at in the introductory chapter, this study is a theoretical interpretative single case study. The main motivation is to understand changes in *German* climate policy strength from 2000–2005 i.e. an empirical interests. However, in order to approach this, that is to measure these changes and to explain them, theory is used. This chapter presents the analytical approach.

To explain something three elements are essential. The first element is the dependent variable: what is to be explained. The second element are the independent variables: what may explain the observed variance/change in the dependent variable. The last element is the mechanism: *how* does the independent variable affect the dependent variable. The research questions of this thesis are: Has there been a change in German climate policy strength from 2000 to 2005? And if there has been a change, what has caused this change? Thus, the dependent variable is national climate policy strength. In order to explain changes in national climate policy strength different internal and external factors will be investigated. This provides the following explanatory model:



**Figure 2-1 Explanatory model**

Assumptions on mechanisms will not be made in this chapter although this does not mean that mechanisms are not important. Even if no assumptions are made on this, one of the goals of the analysis is to shed light on such mechanisms. In Chapter 4, each factor of influence will first be analysed separately, then the interplay of factors

will be discussed. In the sections on interplay, mechanisms by which the factors have influenced the dependent variable will be addressed.

This chapter outlines the theoretical framework. By way of illustration, the model above will be elaborated as the framework unfolds. The first section presents an understanding of the dependent variable; the second outlines the independent variables, the factors. The final section presents the empirical material and discusses its quality.

## 2.2 How to Measure National Climate Policy Strength

This section elaborates on the dependent variable – national climate policy strength. In the first sub-section, the limitation to *federal climate policy output* assessment will be explained. In the second sub-section an explanation is given of why the *strength* of a national climate policy can be understood *as a function of the ambitiousness of emission targets and the strength of climate policy instruments*. In the third and fourth sub-sections the understanding of these two dimensions will be elaborated and the dimensions will be further specified. The last sub-section includes a summary and mentions assumptions regarding the scores on, and relations between, the dimensions of climate policy strength.

### 2.2.1 National climate policy strength at the intentional level (output)

In the assessment of policy strength it is important to distinguish between output, outcome, and impact. Easton (1965: 351-352) emphasises that a distinction should be made between the formal output of decision-making (norms, principles, and rules constituting the regime itself), and consequences arising from implementation and adaptation of these decisions. In the context of environmental policy this has been further specified by drawing a distinction between consequences in the form of

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change in behaviour, outcome, and consequences for the biophysical environment itself, impact (Skjærseth 2000: 64, Underdal 2002: 5-6).

My point of departure is Underdal's (1999: 4) definition of policy strength: "*a strong regime is one whose substantial norms, rules and regulations significantly constrain the range of behaviour that qualifies as legal or appropriate*". Underdal defines policy strength with regard to international regimes. An international regime and a national policy is not the same<sup>11</sup>. However, I argue that this characterisation can be useful in the analysis of national policy strength. Moreover, this definition focuses on the output of decision-making and not the actual effect on behaviour (outcome) or consequences for the biophysical environment (impact). Hence, this study will investigate whether there has been a change in German federal climate policy (output). What kind of output will be assessed? The focus will be on the climate programs and the National Allocation Plan (NAP). The climate programs are formulated by the federal government, and give an overview over the climate targets and climate policy instruments that are, or will be, introduced. The EU ETS directive states that each country shall make a national allocation plan. This shall include the total amount of emission rights for allocation (the cap), the allocation methodology and a list of covered installations (European Commission 2003: Article 9, 10 and Annex III).

Thus, focus will be on output as framed in the climate programs and the NAP, and not so much the effect on behaviour or impact on environmental aspects. It can be argued that when assessing national policy strength, outcome and impact assessments are important. Even if a policy is strong at the intentional level it helps little if it does not lead to a change in the behaviour of target groups and (eventually) a change in the biophysical environment. However, if assessments of outcome and impact of a policy

are to be included, a control for possible sources of influence would have to be made while attempting to measure the strength of the national climate policy, and this is complicated. With regard to assessing outcome, target groups can change their behaviour as a consequence of the changes in national climate policy but also for other reasons. Moreover, a national climate policy consists of many policy instruments (over 100 in Germany) and it is very difficult to disentangle the strength of different policy instruments in changing the behaviour of targeted groups (to trace the behavioural change observed to a particular instrument). Tracing causality relations in impact assessments is even more complicated.

It is argued that assessing impact in addition to output is beyond the scope of a master's thesis. Even so, I could have assessed outcome in addition to output. However, there is also an additional reason for not including outcome assessments in this thesis: that is that the period under investigation is short, and emissions trading is a quite new instrument and the first period of the scheme is a pilot phase. Thus, one would not expect that large changes in behaviour have taken place<sup>12</sup>. In summary, I will only focus on assessing the output, national policy strength at the intentional level. However, in the assessment of the policy strength of the output, literature which judges the outcome/impact of different types of policy instruments will to some extent be used.

National climate policy in this study is understood as the policy of the federal government as framed in the climate programs and the national allocation plan. In Germany, policy at the federal level is supported by many initiatives at regional and local levels. Local governments with responsibilities for city planning, energy policy

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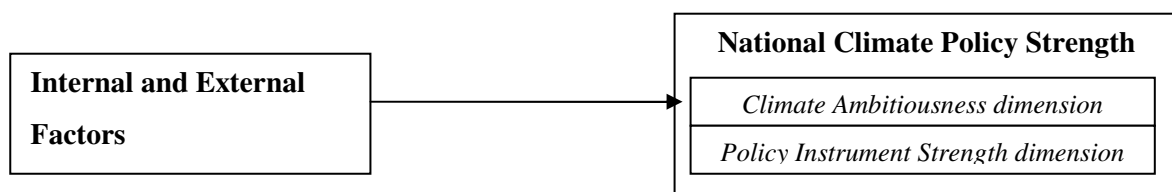
<sup>11</sup> In the international environmental literature "regime" refers to international regimes. Therefore, the concept "national climate regime" will not be used, but rather "national climate policy". Moreover, a nation state has much more authoritative force than an international regime, both in regard to decision-making and on enforcement/sanctions in cases of non-compliance.

<sup>12</sup> Studies such as Point Carbon 2006 show that not much internal abatement was made in the first year of the EU ETS (2005). The fact that the instrument was new, that it came fast and following from this, that many had limited understanding of the scheme, were some of the reasons mentioned.

and transport policy are developing programs to support the federal policy. In 2001, over 500 local communities had developed climate programs and many *länder*, cities or communities had also established their own reduction targets (OECD 2001: 199). However, for the sake of simplicity it is only the policy of the *federal government* that will be considered as the national climate policy in this thesis.

### 2.2.2 Dimensions of national climate policy strength

The strength of national climate policy will here be understood as a function of two elements: 1) ambitiousness of emission targets, and 2) strength of policy instruments. The first will be termed the ‘ambitiousness dimension’, the second ‘the policy instrument strength dimension’. This can be illustrated as follows:



**Figure 2-2 Explanatory model: dimensions of climate policy strength**

The understanding of these two dimensions of climate policy strength will be elaborated below.

#### 2.2.2.1 The climate ambitiousness dimension

The first dimension of policy strength is the climate ambitiousness dimension. This dimension refers to the level of the policy’s emission reduction targets<sup>13</sup>. In the assessment of the climate ambitiousness of the climate programs/NAP the focus will be on the amount of CO<sub>2</sub> and other Kyoto greenhouse gases they declare that they will reduce. This is because (*ceteris paribus*) a policy aiming at a 40% emission cut

<sup>13</sup> It can be argued that this is the real test of environmental policy. It is of course linked to the seriousness of the environmental problem in question. If the problem is not very serious, low ambitiousness should come as no surprise.

constrains behaviour more than a policy aiming at for instance 25 per cent reduction. Moreover, the focus will be on the estimated amount of CO<sub>2</sub> reductions for the economy as a whole and for each sector of the economy. Furthermore, the amount of greenhouse gases the main instrument in the policy combination is to reduce will be commented. A short implementation time can, to some extent, be an indication of ambitiousness<sup>14</sup>. In this thesis, the time dimension will be integrated in the climate ambitiousness dimension. In assessing the ambitiousness of estimated emission reductions, an investigation will be made of how much the program/plan aims at reducing per year (dividing the amount of reduction that is to be managed in the time period on the years)<sup>15</sup>.

#### 2.2.2.2 The policy instrument strength dimension

The second dimension of policy strength is the policy instrument strength dimension. For the sake of simplicity, in the evaluation of this dimension the focus will be on *assessing the main instrument* in the climate policy instrument mix: the *Voluntary agreements (VAs) in 2000 and the emissions trading scheme in 2005*. The overall climate policy instrument mix will also be assessed albeit to a limited extent. As mentioned above it is output that will be assessed. However, in the output assessment, I will use previous studies that assess outcome/impact of similar instruments.

To measure policy instrument strength I will commence with Vedung's principle for policy instrument classification, degree of authoritative force. By degree of authoritative force Vedung means the degree of power which the government is prepared to use in order to achieve compliance<sup>16</sup>. Based on this he distinguishes

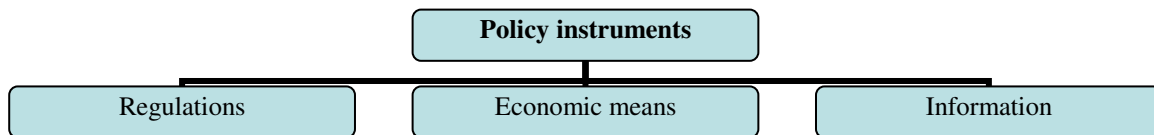
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<sup>14</sup>Some might also argue the opposite; see for instance March et al. 1958. Short implementation time can also signal that one has to do with symbolic policy, assuming that if they really wanted to do something with the problem they would have a more realistic approach to it.

<sup>15</sup> Instead of estimated emission reductions per year, one could also use the distinction short-term targets vs. long-term targets. However, this is not done here.

<sup>16</sup> In principle instruments have two constituent parts: a certain action content, telling the target population what to do or how to behave, and a certain authoritative force, that is, they state the degree of power which the government is prepared to use to achieve compliance (Vedung 1998: 34).

between regulations (the stick), economic means (the carrot) and information (the sermon), arguing that regulations are more constraining than economic means, and economic means are more constraining than information (ibid.: 34)<sup>17</sup>. See Vedung's classification in the figure below. The left side of the figure symbolizes a high degree of authoritative force.



**Figure 2-3 Vedung's classification of policy instrument**

In international relations theory bindingness, specificity, scope and compliance mechanisms are viewed as important criteria in the assessment of the strength of international agreements. Even though international agreements (regimes) and national policy are not the same, I will argue that these dimensions can be seen as a further specification of Vedung's concept degree of authoritative force. Thus, the policy instrument strength dimension will be understood here as a dimension focusing on how strong the main policy instrument (and to some extent the overall policy mix) are formally in terms of bindingness, specificity, compliance mechanisms and scope. Arguing that positive score on these dimensions indicates strong climate policy instrument(s)<sup>18</sup>.

'Bindingness' will here be understood as whether the commitments are binding within the framework of national law. By moving from declarations of intent to legally binding instruments the behaviour that qualifies as legal is constrained and policy strength increased (Wettestad 2002: 10). For instance, the policy instrument information is not a binding, while command and control instruments are binding.

<sup>17</sup> It can be argued that regulations and economic means can both function as carrots and sticks. Regulations can also be enabling and economic instruments can sometimes be perceived as more constraining than regulations, for instance when comparing a very high tax to a not very "scary" regulation. However, it can be argued that even in this case the tax is less constraining because the regulation forbids something (Vedung 1998).

Specificity refers to the level of detail regarding the character of the policy's targets. Moving from general ambitions to reduce emissions sometime in the future, to more specific quantified and time-bound regulations constrains the range of behaviour that qualifies as legal or appropriate, and leads to an increase in policy strength (Ibid.). High level of detail means more transparency up to a certain level of detail; if specificity becomes really high then it may become complex and transparency may decrease. If there are quantified targets and timetables and the system is transparent, the implementation will be more meaningful and easier for all parties involved to monitor. Transparency will make the instrument sensitive to governmental and public pressure and hence potentially stronger (Skjærseth 2000: 67). Since the climate programs consist of over 100 policy instruments<sup>19</sup>, an assessment of specificity of all instruments will be too complicated; therefore, only the specificity of the VAs and the ETS will be assessed.

Scope refers to the policy instruments (policy instrument mix's) range with regard to greenhouse gases. It can be argued that a policy with broad scope, covering all sectors and all types of emissions, is stronger than a policy only covering some of the sectors or some of the greenhouse gases. However, emission trends of different greenhouse gases and for different sector will have to be taken into account in the assessment of ambitiousness of the scope.

Concerning compliance mechanisms, the focus will be on the policy's monitoring regime and the sanctions in the case of non-compliance. Moving from a policy less easily monitored and with no sanctions in case of non-compliance to a policy with a well-established monitoring regime and with explicit and strong sanctions leads to an increase in policy strength.

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<sup>19</sup> This is in itself a factor that reduces the transparency of the climate policy. Even if climate policy involves many sectors, this are very many of measures, and this will contribute to poor transparency.



### 2.2.3 Possible dimensions of climate policy strength

It might be argued that legitimacy, the government's capacity to put through its policy, and cost efficiency also have to be taken into account when assessing the strength of national climate policy. These elements will be discussed below.

Legitimacy of a policy understood as support from involved actors (not only target groups) who perceive the policy as coinciding with their own views, feelings or objectives, can be argued to be an important criterion (Bemelmans-Videc 1998: 8)<sup>20</sup>. There are many studies showing that if the policy is not legitimate it will be problematic to get it accepted in government but also (if accepted in government) there can be problems later on with the implementation of the policy<sup>21</sup>. But, what is the relationship between legitimacy and the dimensions of policy strength? Is legitimacy a dimension of policy strength? Even if a policy has ambitious targets and strong policy instruments if it is not considered as legitimate by involved actors it can be questioned how strong the policy (really) is. However, since this study is limited to output assessment, it can be argued that this comment superfluous. Thus, legitimacy will not be seen as a dimension of national policy strength. Bemelmans-Videc (1998: 8) argues that legitimacy can be viewed as a condition *sine qua non* for policy instrument strength, without it, the governed part will look for behaviour alternative to the one prescribed or induced by governments, and thus frustrate the intended effects (ibid.). I maintain that in addition, legitimacy can be viewed as a precondition also for climate ambitiousness (targets)<sup>22</sup>. Thus, legitimacy will be viewed as a precondition, as an independent variable external to policy strength. In explaining the

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<sup>20</sup> Legitimacy has various meanings. It might refer to the extent to which the government's choices are perceived as just and lawful in the eyes of the involved actors, subjective lawfulness – to be distinguished from legality, objective lawfulness. Or legitimacy might have a broader meaning (Bemelmans-Videc 1998: 8). It is this broader meaning of the concept to which I refer.

<sup>21</sup> See, for instance, Van Meter and Van Horn (1975: 458).

<sup>22</sup> Political acceptance is not a necessary condition for choosing that policy: sometimes policies are chosen that are not legitimate. One example is the Norwegian CO<sub>2</sub> tax; this was decided without the acceptance of the target groups. Moreover, if for instance a tax is not accepted by the target groups but generally accepted by the public then it can live for some time.

changes in policy strength among other things the political acceptance will be assessed<sup>23</sup>.

If a national policy with ambitious emission targets, strong policy instruments and a national government that is considered as weak is compared to a national policy with less ambitious targets and less strong policy instruments and the government is considered as strong, it is not necessarily so that the overall policy strength of the former is higher. Hence, the capacity of the national government, if it is considered as strong or weak actor concerning the follow-up of its policy, can be argued to be important in relation to policy strength. However, since this is an output study, it can be claimed that this argument is also superfluous. Thus, this will not be viewed as a dimension of policy strength but as a possible explanation for changes in policy strength. It may be that the decision-makers, knowing that they have become weaker, (and that they therefore will have problems putting through a policy with ambitious targets and/or strong policy instruments), reduce targets and instrument strength in the climate program.

It can be argued that cost efficiency is an important criterion with regard to policy instrument choice: if the policy is not economically sound it will often not be chosen. One important aspect of cost efficiency is dynamic efficiency. Dynamic efficiency can be understood as the extent to which policy tools simulate long-term technological innovation (Skjærseth 2000: 64). Can it be argued that for a climate policy to be strong it has to be cost effective? I will suggest not, because this study is concerned with environmental aspects in relation to policy strength (the intentions with regard to solving the climate problem in the climate programs/plans). As with the case of the legitimacy and strength of the national government, cost efficiency assessments will

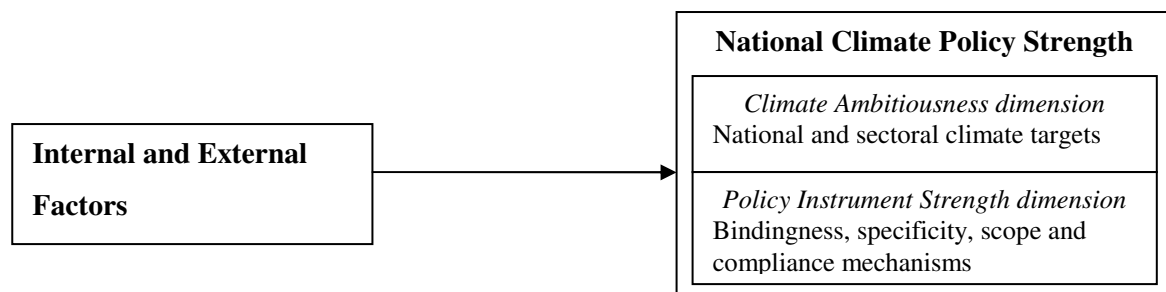
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<sup>23</sup> Legitimacy is often inversely related to the policy strength dimensions. Strong instruments/ambitious targets are often viewed as illegitimate. If the government decides to include target groups then it might end up with weaker instrument and/or less ambitious targets. However, if the government decides to not include these groups, implementation problems can be the result.

to some extent be discussed as possible explanations for the climate policy strength changes<sup>24</sup>.

## 2.2.4 Summing up on national climate policy strength

Measuring national climate policy strength has been discussed in this chapter. A limitation to output and federal policy output has been made. Moreover, *strength* of national policy has been presented as a function of climate ambitiousness and policy instrument strength. Target group acceptance, political capacity to follow up and economic considerations have been discussed as potential dimensions of policy strength. However, given my focus on output these are seen as factors potentially important for explaining national policy strength, i.e. as independent variables. Furthermore, climate ambitiousness is specified as the overall climate target and sectoral targets. Policy instrument strength is specified as specificity, bindingness, scope and compliance mechanisms. This gives the following explanatory model:



**Figure 2-4 Explanatory model: elaboration on the dependent variable**

Some expectations with regard to the relationship between the two dimensions are that intuitively one might expect that they are connected and that the scores on the dimensions match each other, for instance, that a high score on one dimension goes together with high scores on the other. This is because (*certeris paribus*) if one has ambitious targets strong instruments will be needed to reach them. Of course, this is a

<sup>24</sup>For instance, the cost efficiency of a policy instrument can explain why it is preferred/accepted or not in the government

simplification<sup>25</sup>, but it is a starting point and the later analysis will seek to answer this. If the dimensions are connected which way does the causality work? If there has been a change along the dimensions, which dimension caused some of the change in the other? It is possible to think that they are connected in several different ways and the later analysis can shed light on this.

## 2.3 Explaining Changes in National Climate Policy Strength

### 2.3.1 Introduction

In this section the theoretical approach will be presented by answering the question which factors can shed light on the developments in national climate policy strength? However, first the theoretical strategy of this study will be outlined. In the discussion on explanatory factors, the left side of the explanatory model will be elaborated as the framework unfolds.

### 2.3.2 Theoretical strategy and different types of explanatory factors

As was mentioned in the introduction, this thesis follows a complementary theoretical strategy. In studies using this theoretical strategy, the focus is on what may be explained by the different factors; if they jointly provide a comprehensive understanding of the case<sup>26</sup>. This is in opposition to the strategy where theories are seen as competitive, and the focus is on choosing between theories (Roness 1997: 103). The success of studies using a theory complementary strategy is dependent on

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and among target groups.

<sup>25</sup> It can be argued that aspiring targets (targets which is not implemented) may function as an instrument and stimulate to stronger climate policy in the future (Interview).

<sup>26</sup> Behind this statement lies an assumption usual in positivist theory: there is an objective physical reality independent of our perception of it. Thus, each perspective can be viewed as making a contribution to the understanding (uncovering) of the same phenomenon. Hence, it is assumed possible with the right theoretical toolkit to uncover what happened and how (Hatch 2001: 22-23).

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the extent to which the factors chosen are valid jointly (ibid.: 102). Given this, the question can be asked: how may changes in national climate policy strength best be understood?

In this study it has been important to choose explanatory factors that enabled the best possible understanding of such changes. Underdal has three models for explaining compliance and defection (Underdal 1998). Underdal's objective and perspective is geared towards explaining compliance. This thesis has a different objective; explaining national policy strength. Hence, it can be argued that to use Underdal's models uncritically for this purpose would not have been a particularly valid approach. In my view, elements from these models are more general and can be used to explain why changes in national policy occur<sup>27</sup>. Hence, the selection of explanatory variables is inspired by elements in Underdal's three models. However, the selection is also inspired by other theory and the combination of factors is guided by the wish for an approach good at grasping changes in national climate policy strength.

It can be argued that the approach used in this thesis increases validity. This is because empirics systematised through explanatory factors selected because they were thought as suitable will be more relevant in the answering the research question. Thus, this will strengthen the validity of the overall conclusion. However, even if a valid explanatory framework is the goal, concerns for simplicity and feasibility, have to be taken into account. Hence, this places some restrictions on number of explanatory factors.

This thesis undertakes an analytical distinction between *internal factors* and *external factors*. First, one would expect *internal factors* to be especially important in explaining the changes in German climate policy. This is because Germany is one of

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<sup>27</sup> Two of Underdals model are based on interest based theories, the last one is based on preference change theories. I will argue that intuitively, a change in climate policy strength can either be due to changing power balance between the actors (their preferences stay the same) or that actors change their views (change preferences). Hence, in the selection of explanatory factors I will chose factors from both types of theories.

the largest EU countries and in 1990 was that EU country that emitted the most CO<sub>2</sub>, and the fifth largest emitter at the global level after the US, China, Russia and Japan (Hasselmeier and Wettstad 2000: 1). Moreover, in the 1990s and at the beginning of 2000s Germany was one of the standard-setting countries for environmental policy in the EU (Andersen and Liefferink 1997: 26). Furthermore, The EU has been a key actor in international efforts to build an effective response to the global climate change challenge (Wettstad 2001: 139).

Even though Germany is a large country and has been one of the standard setting ones it is still unrealistic to assume that German climate policy is decided in complete isolation from its environment. Therefore, I will also focus on *external factors* and see to what extend changes in these external factors can contribute to shed light upon changes in German climate policy strength. There are two important elements outside Germany that can have influenced on German climate policy: the EU level (EU climate policy) and the international climate regime.

As have been pointed out by the literature on Europeanisation, it has become increasingly important to take developments at the EU level into account when discussing and understanding the development of national policies in EU countries<sup>28</sup>. It has been argued that the international level is easily neglected; impacts from this level should also be taken into account when explaining changes in national policy. In most areas of transnational environmental problems, there is a core environmental regime interacting with the EU environmental policy (Skjærseth and Wettstad 2002: 101). In the climate field, the EU and Germany participate in the United Nations Framework Convention on Climate Change (UNFCCC). In this study, however, the international level will not be focused on. There are two reasons for this.

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<sup>28</sup> Some might disagree with this. In Moravcsik's liberal intergovernmentalism, states are *a priori* in control of integration (Jordan 2002: 45). Moreover, the only way a state can experience an EU level outcome that it does not want is if the state is outnumbered in the EU level process. The EU level (in itself) have no independent effect on national policy (ibid.: 50).

Firstly, the association of EU policy and the international regime makes it difficult to disentangle the effect of the international regime on German climate policy. One example of illustrating how the EU climate policy and the international climate regime are interconnected is the EU burden-sharing arrangement. A first brief discussion on a target-sharing arrangement took place in the EU before the 1992 Conference of the Parties (COP). However the process did not arise again before the 1995 COP and the Berlin Mandate adaptation when the EU countries realised that they had to develop a formal burden-sharing arrangement to gain acceptance for a common EU commitment and to exercise leadership (Wettestad 2001). After Kyoto, the BSA was adjusted and in 2000 made legally binding, independent of the Kyoto agreement ratification (Council 2000: 5). Thus, the making of the BSA cannot be understood independently of the international level although the timing of the entry into force was not connected to the international level.

Secondly, Mez and Watanabe (2004: 124) argue that the Kyoto Protocol did not have a direct impact on Germany's climate policies, but it did have a wide range of indirect impacts: Kyoto has led to changes in EU climate policy<sup>29</sup>.

Below, the factors taken from theory and propositions behind each factor will be presented. There are some indications that a slow-down in German climate policy occurred during this period. In the formulation of propositions a simple point of departure will be that the changes along both dimensions go in the same direction, i.e. towards decreasing climate ambitiousness and decreasing policy instrument strength. Moreover, in the propositions only one of the indicators (of change) in the factor will be included.

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<sup>29</sup> This can be shown by the emissions trading case. The US introduced the concept into international negotiations and the Kyoto protocol. EU was more skeptical, and favored command and control policies (Oberthür and Tänzler 2002: 321). Despite EUs original skepticism the concept gained support within the EU, the Kyoto protocol was decisive in this (ibid.: 323).

### 2.3.3 Potentially important internal changes

Here, four internal factors will be presented. The first factor is learning from domestic climate performance. The second factor to be assessed is the influence of changes in abatement costs on German climate policy. The next factor is the power relationship between Green and Grey forces within the national government. The fourth factor is the power relationship between Green and Grey societal pressure groups.

#### 2.3.3.1 Preference change due to learning from domestic experience with emission reductions

Can it be that decision-makers *learning from prior experience* with national climate policy may have contributed to changes in climate policy strength? This means that the decision-maker's preferences with regard to ambitious emission targets and strong policy instruments may have changed between 2000 and 2005. Decision-makers are assumed to enter the policy process with imperfect information and tentative preferences. Accordingly, they seek information and try to persuade others. Policy largely develops through learning and is maintained through 'routinisation' (Underdal 1998: 21). Decision-makers can learn as a consequence of domestic experience (own experience). Moreover, there can also be learning between the Member States. Learning can take the form of sophisticated adaptation of ideas related to the particular problem at hand, or the simpler form of copying ideas or solutions. Learning can also be strictly instrumental (choice of means only) or include policy goals and norms as well (ibid.: 21).

How can German decision-maker's learning explain the changes in climate policy strength? It might be that the success of previous German climate policy led to a preference change among the decision-makers: that there was no longer a need for an ambitious climate policy. How can I conclude that there has been such a preference change? First an investigation of whether CO<sub>2</sub> and the other GHG emissions have decreased in the period will be made. Then, the question of whether changes here



have lead to the learning process described above will be addressed. Thus, it is expect that:

*P1: Learning from domestic experience may have taken place. German decision-makers may have learned that large reductions have been made, thus there was no need for ambitious climate policy (preference change). This learning and preference change may contribute to explain decreasing German climate policy strength.*

### 2.3.3.2 Abatement costs

Could it be that changing costs of climate policy can have contributed to the changes in climate policy strength as have been pointed out by Underdal (1998)? It is assumed that decision-makers evaluate options in terms of costs and benefits to their nation. Moreover, that they choose whichever option they believe will maximise net national gain (Underdal 1998: 3). Furthermore, if the national marginal abatement costs exceed the marginal damage costs then the decision-makers will not choose that option, or change from that option to another (ibid.). However, in regard to climate calculations, many countries do not take damage costs into account when calculating the cost and benefit of an option. This is mainly a result of the high uncertainty connected to predication (Bang 2003: 21). Therefore, the inquiry of this study will be limited to abatement costs.

The abatement costs of implementing the 2000 climate program will be assessed. A comparison of reference scenario with projections will be used as an indicator of this. It can be argued that the impact of costs from abatement will largely depend on how the costs are concentrated. There are two important elements here: Are emissions concentrated in a sector with a high energy efficiency and fuel switch potential? How important is this sector for the national economy? The question whether abatement costs have increased in the period will then be discussed. Since the largest amount of CO<sub>2</sub> emissions in Germany stem from the energy sector, the potential costs for mitigation in Germany will be largely related to energy efficiency measures,

restructuring of the energy sector and energy conservation. The question of energy efficiency will be investigated – and whether the fuel switch potential has decreased in the period. For feasibility reasons energy conservation will not be investigated. Moreover, the ETS and VAs will be compared with regard to national abatement costs. Moreover, it can be argued that for the decision-makers calculating costs from abatement, the general economic situation and unemployment situation are also relevant. The argument is that a strong economy can bear more costs than a weak economy. Hence, I will investigate how the Gross Domestic Product (GDP) figures and unemployment have developed in the period under investigation.

It can be argued that abatements may also lead to positive side-effects such as innovation (Underdal 1998: 8). However, for feasibility reasons this is not examined in this thesis.

The following is expected concerning abatement costs:

*P2: Changes in decision-makers' assessment of abatement costs may have taken place, for instance may decreasing energy efficiency potential increase abatement costs. These changes may contribute to explain decreasing German climate policy strength.*

### 2.3.3.3 Power relationship between Green and Grey forces in government

Since the policy chosen must also be politically feasible within the government it is important to investigate whether changes have occurred in the power balance within the government. Governments can be viewed as multifaceted organisations over which no single decision-maker has full control. Decision-makers assess options in terms of costs and benefits; however, their utility function can be different. The perspectives and interests of decision-makers are to some extent shaped by their positions (Allison 1971: 176, Underdal 1998: 13). Can it be that the changes in national climate policy can be explained by changes in power balance between Green

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and Grey forces in government? *Green* forces are defined as those who work for a strong climate policy; *Grey* forces are those who do not want a strong climate policy. Green and Grey are relative concepts and are not dichotomous; some are viewed as “greener” than others. The concept of *forces* in this thesis refers to two groups – ministries and political parties.

The party factor can also be viewed as important; some parties are viewed as “greener” than others. Thus, the parties that are in government and their power relationship are important. Changes in election results will be used as an indicator of changes in power balance between governing parties. In the period under investigation, there was a federal election in 2002 in Germany. A decrease in climate policy strength can be due to weakening of green political parties in this election.

The climate policy issue is a cross-sector issue where many ministries have a say, such as the Ministry of the Environment, the Ministry of Economics and Labour, the Ministry of Finance and the Ministry of Buildings and Transport, to mention the most important. Thus, one would expect conflicts and different interests and opinions. However, since VAs and emissions trading affects the energy and industry sector and that the Ministry of Economics and Labour is responsible for measures in this sector in Germany, the focus will be on the power relationship between the Ministry of Environment (BMU) and the Ministry of Economics and Labour (BMWA). How can a change in the power relationship between these two ministries be measured? Some indicators taken from organizational theory will be used. These are whether there have been changes in the BMU's capacities and its ability to intervene in the other ministry's domain. Further, whether changes have occurred in the BMU and BMWA ministers' political clout, also whether there has been an increase in the budget/number of employees (also related to changes in the tasks of the ministries). Hence, arguing that a potential decrease in climate policy strength might be due to a relative weakening of the BMU, i.e. a relatively weaker possibility to intervene in the other ministers' domain, relatively weaker political clout of the BMU minister,

relatively weakening of the budget/number of employees related to tasks. Thus, the relevance of the following assumption will be discussed:

*P3: The Green forces in government may have been relatively weakened, for instance may the Green forces in government have been weakened due to weak election results. These changes may contribute to explain decreasing German climate policy strength.*

#### 2.3.3.4 Power relationship Green and Grey societal pressure groups

In liberal societies the policy chosen should also be politically acceptable to society. It can then be argued that it is important to investigate the power relationship between Green and Grey societal pressure groups. This builds on a bottom up view of politics, as for instance, found in liberal theory. Representative institutions are seen as a critical transmission belt by which the preferences and social power of individuals and groups are translated into state policy. Thus, the state policy is constrained by the underlying identities, interests and power of individuals and groups who constantly pressure the central decision-makers to pursue policies consistent with their preferences (Moravcsik 1997: 518).

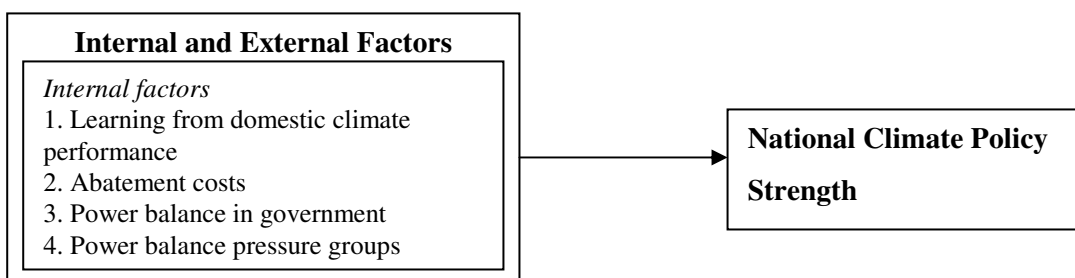
It has been argued that the distribution of the costs and benefits of a policy in society is important for the acceptance (and thus the success of the policy). If the costs are concentrated on some specific sectors of the economy or an organised segment of society and the benefits are widely dispersed throughout the society, it will most likely be politically problematic (Wilson 1973: 332, Underdal 1998: 14). This is especially so when the sectors concerned also belong to the social centre in the society. Then these targeted sectors will mobilise (Underdal 1998: 16). Moreover, it has been argued that the conflict will tend to increase when, in addition to an asymmetrical distribution of cost and benefit, the problem activity in question stems from point sources that are easy to identify and very visible. In such situations Environmental Non-Governmental Organisations (ENGOS) are also mobilised as a counter-balancing

force to the target groups (Skjærseth and Wettestad. 2002: 111). I will investigate whether the change from VAs to ETS made the costs clearer and more concentrated, thus leading to a mobilisation.

Thus, an investigation will be made as to whether the Green forces have become relatively weakened. Green forces here means ENGOs and industry that profit from climate policy such as renewable energy companies; Grey forces will mean target groups, conventional industry. This is of course a gross simplification. There are shades of grey and green. For instance there are branches of conventional industry that are greener than others. How am I to measure if the Green forces have become relatively weakened? It was argued in 2000 that conventional industry is stronger in Germany because it is more concentrated than the green forces, and the federal decision making process is centralised. Moreover, it has been argued that conventional industry has had better contacts, formally and informally (Böckem 2000: 9). Hence, two indicators will be used in the assessment of whether Green pressure groups have become relatively weakened: the degree of concentration/organization and the formal and informal contact patterns. The following preposition will be considered:

*P4: Green societal pressure groups may have been relatively weakened. For instance may Grey pressure groups concentrations have increased strengthening their lobby power. These changes may contribute to explain decreasing German climate policy strength.*

The internal factors have now been presented and are summed up in the figure below



**Figure 2-5 Explanatory model: elaboration on the internal factors**

## 2.3.4 Potential external changes

### 2.3.4.1 Changes in EU climate and energy policy

At its founding, the EEC was primarily an intergovernmental agreement between 6 states and had no formal environmental policy and no environmental bureaucracy. Today, the EU has some of the most progressive environmental policies of any body in the world though it is not a state. In the EU, national environmental policies are no longer legally or politically separate from EU environmental policy, they have been deeply Europeanised<sup>30</sup> (Jordan 2003: 19). The Europeanisation perspectives focus on assessing how and to what extent European integration has had national political consequences (Kallestrup 2005: 22). I am interested in the potential impact of EU policy on German climate policy: can changes in EU climate/energy policy explain changes in German climate policy strength?

EU level changes can impact on national policies, politics and political. The dependent variable of this study is changes in German climate policy strength as it is framed in the climate programs. Thus, I am interested in how EU level changes have impacted on national climate *policies*.

The EU policy can impact on domestic policy through new regulations, directives and decisions (Jordan 2002: 22). For instance, member states will have to transpose EU directives into their national legislation. In October 2003 an EU directive establishing an emissions trading system in the EU was adopted. The manner in which climate ambitiousness was described here will be investigated, for instance if the directive contained country specific caps. Moreover, whether a new EU burden-sharing arrangement was adopted will also be investigated.

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<sup>30</sup> The concept Europeanisation has different meanings. Here the concept means “the impact of Europe on the domestic structure”. However, the concept can also mean “European institution building” (Eliassen and Andersen 2001: 12-13). Europeanization also has a third meaning “the spread of European ideas and mentalities outside Europe’s borders”.

It can also be argued that the EU level may have influenced German climate policies by influencing domestic politics or polities. When assessing the factors together changes at EU level will be examined to see whether these have led to changes in policies as a consequence of impacting on domestic politics. The indirect effects of two EU policy developments will be investigated: the introduction of the EU emissions trading directive, and hence the change of main instrument for VAs to ETS, and the liberalisation of the power market. The introduction of the ETS may have meant a change in climate policy instrument strength, and this may have influenced domestic politics by influencing target groups mobilisation<sup>31</sup>. Moreover, in July 1996<sup>32</sup> it was agreed at the EU level to liberalise the power sector within the framework of an internal energy market (Wettestad 2005: 9). Whether this EU lead liberalisation of the power market has affected German climate policy strength indirectly by impacting on the competition (and hence concentration) of German power generators will also be discussed.

EU influence on policies through influencing politics could also be interesting; however for simplicity, this will not be investigated in this thesis. The relevance of the following proposition will be investigated:

*P5: Changes in EU climate/energy policy may have taken place. For instance may the EU ETS directive have established high caps for Member States. These changes may contribute to explain decreasing German climate policy strength.*

#### 2.3.4.2 Learning from other EU-15 countries climate performance

It is important to assess cognitive aspects and interest change at the EU level also. Germany can learn from what other EU countries do with regard to climate policy. It has been argued that transnational learning is most likely to occur between actors

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<sup>31</sup> This assessment of whether a change in policy instrument strength has impacted the German climate ambitiousness will address one possibility of how the two dimensions of policy strength are related.

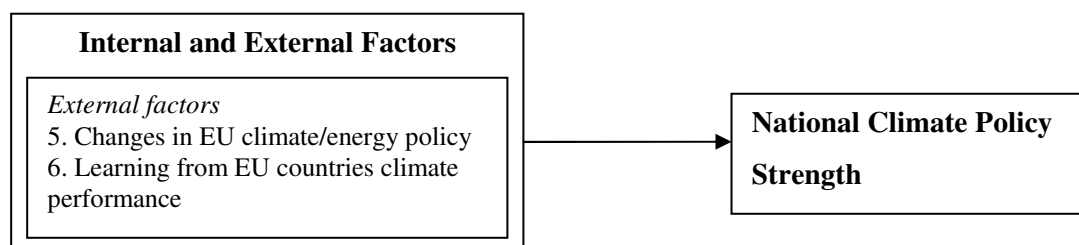
<sup>32</sup> The electricity directive was adopted December 1996. Each country had to transpose the directive by February 1999.

which are ideologically or culturally close (Underdal 1998: 21). One would expect the countries, especially given the EU burden-sharing arrangement, to look at each other's Kyoto gaps (distance to Kyoto target) and take this into account when choosing what to do. The potentially decreased climate policy strength might thus be explained by Germany learning that other countries do little with regard to climate policy.

How will this be investigated? First, the GHG emission reduction levels will be discussed and whether these showed that EU-15 countries were far from achieving their targets and/or if there were signals of other EU countries setting lax caps. Then, an assessment will be made as to whether it is plausible that this lead to an understanding in Germany that the EU-15 does little and then we do not have to do much either. This may be formulated in the following manner:

*P6: Learning from the climate performance of other EU countries may have taken place. German decision-makers may have learnt that EU Member States do little for climate protection and decided that it should also not do much on this. This learning and preference change may contribute to explaining decreasing German climate policy strength.*

*To sum up the model:*

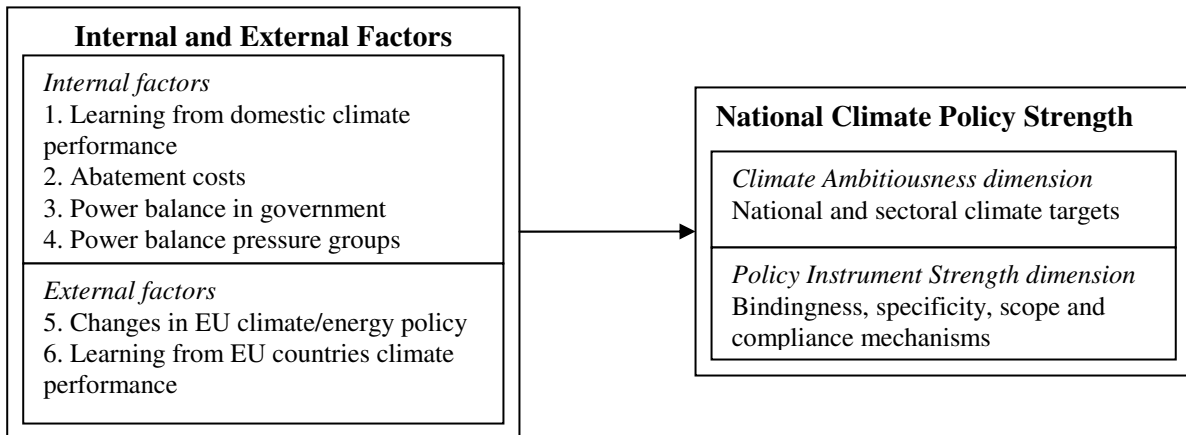


**Figure 2-6 Explanatory model: elaboration on the external factors**



### 2.3.5 Summing up on theoretical approach

This chapter outlines the theoretical framework i.e. that is the understanding of the dependent variable and the different independent variables. This can be summarised:



**Figure 2-7 Explanatory model fully elaborated**

## 2.4 On the Empirical Material: Sources and How Sources are Treated, Reliability and Validity

This section presents the empirical material of this study and discusses its quality. An overall assessment of the sources will be given but the main emphasis will be on my own data, the interviews. Validity is here understood as the quality of the interpretations and if the project's conclusions are confirmed in other research (Thagaard 2003: 21). Reliability is understood as the quality of the sources of information; whether the research is conducted in a confident manner (ibid.: 178). Reliable data is important if the interpretations of the study are to be considered as valid. Thus high reliability can be understood as one precondition for high validity. This thesis assesses whether there has been changes in policy strength and which developments in this period account for this change. Thus, focus is on what actually happened. Dahl (1980) and Yin (2003) have formulated criteria on treatment of sources when the purpose of the study is to say something about actual developments.

These criteria and related validity and reliability assessments will be mentioned when relevant in the text below.

### **2.4.1 Multiple sources of information**

This thesis relies on multiple sources of information: official documents, books, articles, statistics and information from home pages, for instance the BMU home page, and statements of different interest groups. In addition the study relies on series of semi-formal interviews conducted 15. – 23. March in Bonn and Berlin and information gathered at a German Emissions Trading Conference<sup>33</sup> March 14, 2006.

Given the limitation to studying the strength of *federal climate policy output*, the chapter describing the changes in policy strength relies on federal official documents: i.e. the climate programs, the national allocation plan, the agreement between the industry and government, the ETS directive and laws transposing the ETS into German legislation.

Different sources of information will be used in the sections mapping changes in the independent variables. Factors derived from different theories call for different sources. When assessing changes in economic conditions such as changes in unemployment and growth, official statistics are used. Interviews are one main source of information in the assessment of learning and changes in power balance. Different sources have different validity and reliability challenges. It can be argued that there are more sources of error related to interviews than to written sources/statistics; and therefore, the reliability and the validity may be more questionable. Hence, the selection of interviewees and the method of the interview are discussed more in detail. There are also validity challenges with statistics. Some statistics can be less suitable

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<sup>33</sup> The conference “Emissionshandel – Allokationsplan für die zweite Handelsperiode – NAP II” was arranged by KRdL: Kommission Reinhaltung der Luft in VDI and DIN in cooperation with the BMU and the Umwelt Bundes Amt, DEHSt.

since they were compiled for other purposes. This will be discussed at the appropriate places in the thesis.

Secondary sources such as books and articles about German climate policy and the EU ETS are used in this study. It can be argued that primary sources are preferable to secondary sources (Dahl 1973: 75). However, it has not always been possible to find primary sources, and developments in German climate policy are complex. As a supplement to primary sources, (including interviews), secondary sources can also be beneficial. Given the focus on changes in the period 2000-2005, especially the situation 2000 may not be recalled in detail. Generally, different sources of information are used to double check information. This enabled misunderstandings, misinterpretations and inaccuracies to be cleared up. This strengthens the reliability of the data. Moreover, it has been argued that such triangulation of data sources also increases validity (Dahl 1973: 74, Yin 2003: 99).

#### **2.4.2 On the planning, conduction and treatment of information from interviews**

Overall, 11 interviews were conducted in Bonn and Berlin in the period 15-23 of March 2006. The goal was to interview people from four groups: ENGOs, industry companies and industry associations, federal ministries and research institutes. Researchers from DIW Berlin, Wuppertal and the Free University were included in this sample as it was assumed that they could supply valuable background information and a possibility to cross-check information. This was very valuable. The three first groups were chosen because they are important players in German climate policy. Thus, their reflection on changes in their power/power changes of the other groups and on learning could be an important source of information.

Climate policy has a cross-sector character. The Ministry of Environment has the coordinating role, and an interview here was most important. The other ministries are responsible for policy instruments in their sector. An interview in the Ministry of

Economics was seen as beneficial given the focus on changing instruments in energy and industry sector. One interview was conducted in the BMU. Unfortunately, it was not possible to obtain an interview in the BMWI. I conducted interviews with representatives from two important industry companies E.ON and Vattenfall, and two industry federations The Federation of German Industries (BDI) and The Chemical Industry Federation (VCI). Moreover, interviews were conducted in three of the most important ENGOs: World Wide Found for Nature (WWF), Friends of the Earth Germany (BUND) and Germanwatch. A goal was to have a balanced representation of Green and Grey forces' views. An interview in the BMWI was not possible. However, I participated at an emissions trading conference where different industry groups were present<sup>34</sup>. Hence, it can be claimed that a fairly balanced presentation of views was attained.

For the selection of interviewee, the individuals should have been working with climate policy issues. This was confirmed although some of the interviewees were quite new in their positions. This can be problematic, because as Dahl has argued, if one would like to know what actually happened, it is best to hear it from someone who was actually there (Dahl 1973: 59). However, this can also be positive since new employees may not be that socialised into the thinking of their organisation and may thus have a more critical stance. Moreover, some interviewees had been in their position throughout the whole period under investigation. Furthermore, the information has been cross-checked. Thus, this is not seen as a validity problem.

An interview guide was made; it was seen as important to ask the same questions so that comparison and thus triangulation of information was possible. However, it was considered important that the questions were relevant for the interviewee. Dahl has argued that whether the information can be used to say something about actual

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<sup>34</sup> Different industry branches covered by the EU ETS participated at this conference: power, aluminum, lime, glass, ceramics, chemic and oil.

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developments has to do with the ability of the interviewee to tell the truth (ibid.). Hence, individual adjustments were made to ensure that interviewees were not questioned on topics with which they were unfamiliar. Overall, this functioned well and this is not seen as a validity problem.

Most of the interviews were taped<sup>35</sup> and transcribed. Two interviews were more informal conversations with researchers and these interviews were not taped, although notes were taken during these interviews. Taping interviews increases the reliability (Thagaard 2003: 178), although it might affect the interviewees' answers. Dahl (1973: 69) has pointed at the interviewees will to tell the truth is central if the information is to be used to say something about actual developments. Taping interviews can affect the interviewees will to tell the truth. However, the impression was that the interviewees were open and not falling into rhetoric and "correct" answers. Thus, it can be argued that the taping of interviews strengthened reliability and did not weaken validity.

The interviews were conducted in English but the interviewees were informed about my German language and climate terminology skills. Thus, the interviewees could speak German if they did not know the English terminology. One interview was conducted entirely in German. Being able to communicate in two languages made it possible to clear up potential misunderstandings/misinterpretations, and I would argue that this strengthened the reliability of the data.

Overall, the quality of the empirical material is assessed as good and it can be argued that the approach of using multiple sources has strengthened the validity.

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<sup>35</sup> Transcribed interviews and notes from non-taped interviews are archived. Based on this material matrixes were made with information sorted according to themes, these matrixes were also achieved.

### **3 Baseline: German Climate Policy Strength**

#### **3.1 Introduction**

This chapter addresses the first research question: *Has there been a change in German climate policy strength from 2000 to 2005?*

The chapter commences with a section on German climate policy in the 1990s. The second and third sections investigate the 2000 climate program and the national allocation plan/the 2005 climate program. The focus is on the two dimensions of policy strength presented in Chapter 2: climate ambitiousness dimension and policy instrument strength dimension. The amount of emission reductions that is to be made, overall and for each sector, are discussed in the assessment of climate ambitiousness. The discussion on policy instrument strength starts out with a brief overview on the strength of the policy mix and its main instrument. Here, Vedung's principle degree of authoritative force will be taken as point of departure. After this, a more detailed assessment will be given focusing on the sub-dimensions bindingness, specificity, scope and compliance mechanisms. As mentioned in Chapter 2, the main focus will be on assessing the main instrument in the policy mix, that is the VAs in 2000 and the EU ETS in 2005. Both instruments target the energy and industry sector and point sources. This makes them suitable for comparison.

The fourth section discusses whether the 2005 climate policy strength is stronger or weaker than that in 2000. Moreover, the scores will be interpreted and the scores on the dependent variable that the next chapter will seek to explain are presented.

## 3.2 Backdrop: German Climate Policy in the 1990s

Germany was the first important industrialised country to adopt a specific reduction target within a time frame (Hasselmeier and Wettestad 2000: 5). By 1990 the country had already adopted a domestic CO<sub>2</sub> reduction target whereby the nation was to reduce its emissions by 25% before 2005 with a 1987 baseline (ibid.: 1). In 1997/8 Germany took on an international climate commitment under the Kyoto protocol and the EU burden-sharing arrangement. The country was to reduce the emissions of a basket of six greenhouse gases by 21% in the period 2008-2012 compared with 1990 levels (Oberthür and Ott 1999: 148). This is one of the most ambitious targets in the EU Burden-Sharing. Only Luxembourg has a higher reduction target, Denmark having the same target as Germany.

Germany approached the climate challenge with a set of regulations that had been tried and tested in other policy fields. Three types of command and control policy instruments were preferred: environmental laws, ordinances and technical specifications (Bang et al. 2004: 11). Moreover, voluntary agreements had broad support (ibid.). Before COP 1 in Berlin, the federal government asked industry to set a CO<sub>2</sub> reduction target on a voluntary basis. In 1995–1996 The BDI and the government made an agreement whereby industry should reduce its emissions by 20% before 2005 with a 1990 baseline. In return, the government promised not to take initiatives to achieve the reduction targets by command and control measures. To monitor the agreement an independent third party was introduced: the Rheinisch-Westfälisches Institute for economic research (RWI) (Watanabe 2005: 25-26).

### 3.3 “Initial “German Climate Policy Strength: The 2000 National Climate Program

#### 3.3.1 Assessing policy strength: the climate ambitiousness dimension

How ambitious was the 2000 climate program overall? A prognosis showed that with the policy instruments already in place a 15-17% CO<sub>2</sub> emission reduction was estimated for the year 2005 (BMU 2000b: 8). The policy mix in the 2000 climate program, with the new policies and measures, was to lead to a 25% CO<sub>2</sub> reduction before 2005 (ibid.: 25). This would mean a reduction in line with the domestic climate target. Compared to the business as usual scenario (BAU), this is ambitious.

How ambitious was the 2000 climate program in terms of sector reduction?

According to a 1997 projection, emissions could decrease by some 16% in the energy transformation sector, 35% in the industry sector and 20% in the residential and institutional sectors. The emissions in transport sector were expected to increase by some 28% during the same period (OECD 2001: 194)<sup>36</sup>. The target for the energy and industry (including commercial) sector was to reduce CO<sub>2</sub> emissions by 20-25 million tonnes, transport sector by 15-20 million tonnes residential sector by 18-25 million tonnes, all before 2005 (BMU 2000b: 85-86). Annual estimates for CO<sub>2</sub> reductions would be 4-5 million tonnes in the energy and industry sector, 3-4 million tonnes in transport sector, 3.6-5 million tonnes in residential sector. Compared to the BAU scenario, most of sector targets are ambitious; that for especially the transport sectors target is particularly ambitious. Moreover, the climate program was estimated to lead to a 26% reduction in CO<sub>2</sub> equivalents by 2005, a 32% reduction by 2010, and a 45%

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<sup>36</sup> The difference between these two projections was that the latter is based on policies and measures already implemented in 1999, but does not take into account the 1999 eco-tax reform and the 2000 Renewable Energies Act (OECD 2001: 194). The other takes into account measures implemented between 1999 and the 2000 climate program. Hence, the estimates of the 1997 projections will be slightly lower.



reduction by 2020 (ibid.: 88). Hence, the program was estimated to lead to an over-fulfilment of the German commitment under the EU burden-sharing arrangement.

The overall targets of the main policy instrument, the VAs, were to reduce the industry's emission of all greenhouse gases by 35% by 2012 as compared to 1990 and to reduce CO<sub>2</sub> emissions by 28% by 2005 as against 1990 (Federal Government 2000). It is difficult to compare this target to the BAU scenario since different branches have different targets which aggregate to this overall target. However, it was argued that targets of most of the branches were close to BAU and hence not ambitious. One exception was the targets for the energy sector (Interviews). Hence, it can be argued that the VAs was quite ambitious. Moreover, the overall targets of the 2000 climate program can be claimed to be ambitious.

### **3.3.2 Assessing policy strength: the policy instrument strength dimension**

This section commences with a brief overview of the strength of the 2000 climate policy mix and the main instrument, the voluntary agreements. Then, the policy mix and especially the voluntary agreements will be given a more detailed assessment by focusing of their bindingness, specificity, scope and compliance mechanisms.

#### **3.3.2.1 The 2000 climate policy mix and its main instrument, the voluntary agreements**

More than 100 measures for greenhouse gas reduction are listed in the 2000 climate program. The program includes all Vedungs types of policy instruments: regulations, economic means and the instrument information. Economic instruments have not been used very much in German climate policy (Michaelowa 2003: 34). However, the 2000 policy mix includes two important economic instruments: the environmental tax reform from 1999, and combined heat and power. The instrument of information is also not much used in German climate policy in contrast, for instance, to American

climate policy. Germany has a strong regulatory tradition and command and control measures are important in the combination.

The voluntary agreements were renewed and expanded in 2000, and most observers have argued that the VAs were the backbone of German climate policy. The VAs covered 80% of the industry's energy consumption as well as, large parts of the energy consumption in the residential and commercial sector through the participation of the gas-oil and electricity production (Federal Government 2000). How can this instrument be classified in accordance with Vedung's typology? It has been argued that VAs are more constraining than information but less constraining than economic means, and hence that it can be placed between these two categories (Skjærseth 2000: 60). Hence, the typology will be extended by one more category. Table 3-1 shows a classification of some of the most important policy instruments in 2000 in accordance with this extended typology of policy instrument.

**Table 3-1 2000 Climate program policy instruments classified**

<b>Regulations</b>	<b>Economic means</b>	<b>Voluntary Agreements</b>	<b>Information</b>
Renewable Energies Act (EEG)	Environmental Tax Reform	Voluntary Agreements with Industry and Energy	Information and Enlightenment Measures in Transport sector
Promotion Program for Energy Saving in Existing Buildings	Combined Heat and Power (CHP)		
Energy Saving Regulation	Distance Dependent Autobahn Tax		

### 3.3.2.2 A more detailed assessment: the sub-dimensions of policy instrument strength

#### **Bindingness**

With regard to bindingness the climate program in itself is only a declaration of intent, and therefore not legally binding. The government only states that a certain level of CO<sub>2</sub> and of the other Kyoto protocol greenhouse gases shall be reduced within a certain time frame and introduces instruments by which these reductions shall be made. Policy instruments like the eco-tax, the combined heat and power and the renewable energies act are legally binding. These are all important instruments in the policy mix. Instruments like information campaigns are not binding.

It has been argued that the German VAs are not legally binding; the industry merely declares that it will try to cut emissions, thus committing itself only to the effort. Hence, it is a declaration of intent and thus not legally binding (Rodi 2005: 190-191).

#### **Specificity**

The 2000 climate program mentions two climate targets, the 25% national CO<sub>2</sub> target and the 21% Kyoto GHG target. Moreover, the program contained indicative sector targets, for the first time in Germany (BMU 2000a). The VAs, had both quantified targets and timetables. However, the VAs consists of many different agreements, responsibility being borne by 19 industrial associations (Federal Government 2000). These agreements are defined according to various criteria and different sectors/industrial associations have different reduction targets. Some of the reduction targets go beyond the total declaration (ibid.). It can be pointed out that this makes the system complex and non-transparent.

#### **Scope**

In the 2000 climate program all greenhouse gases are included. However, it has been claimed that fluorinated gases are poorly treated in this program (Michaelowa 2000). Moreover, the climate program covers different sectors of the economy and

introduces many new instruments and intensifies others. Hence, the scope in regard to gases will be assessed as quite broad and the scope in regard of sectors as broad, in total the scope of the climate program is assessed as quite broad.

The voluntary agreement covered 80% of the industry's energy consumption and also large parts of the energy consumption in the residential and commercial sector (Federal Government 2000). This is a quite broad scope. Moreover, the VAs covered all greenhouse gases. Thus, the scope in regard of gases is broad. Hence, the scope of the VAs is assessed as quite broad.

### **Compliance mechanisms**

In the VAs it is stated that the declarations of the individual industrial associations is to be regularly checked by both parties on the basis of monitoring reports by an independent third party, RWI (ibid.). Third party involvement makes the monitoring regime stronger than if the system was only based on industrial self-reporting.

Moreover, it is declared that monitoring should enable adjustment to the objectives if necessary as well as further development of the individual declarations (ibid.). The VAs mentions no sanctions in the case of industrial associations being in non-compliance with the targets. It is nevertheless declared that as long as the agreement is successfully implemented and jointly developed, the federal government will not take initiatives to achieve emission reductions through regulations (ibid.). An implicit sanction is expressed here: if reductions are not made due to voluntary agreements command and control measures will be introduced.

All aspects taken into consideration, it can be argued that even though there is third party involvement and an implicit sanction, the enforcement system of the VAs is not particularly strict.

### 3.3.3 Summing up: 2000 German climate policy strength

Table 3-2 summarises the discussion on the 2000 climate programs policy strength.

**Table 3-2 2000 Climate policy strength**

2000 Climate Program	Policy instrument strength				Climate ambitiousness
	Bindingness	Specificity	Compliance mechanisms	Scope	
<b>Voluntary Agreements (VAs)</b>	Only a declaration of intent and not binding	Targets, Timetables, but non-transparent	No penalties, however implicit treat of introducing stronger instruments	80% industry's, large parts other sectors energy consumption. All GHG	Targets close to BAU, energy sector target more ambitious
<b>Policy mix</b>	Many regulations, however, VAs are not binding	Targets, Timetables, also for sectors, VAs non-transparent	Many regulations. VAs has weak penalties	All sectors, all GHG but less good on fluorinated gases	25% CO <sub>2</sub> target (vs. 16-19% BAU)

The table shows that the 2000 climate program was stronger on climate targets than on policy instruments.

## 3.4 German Climate Policy Strength 2004 – 2005: the National Allocation Plan/2005 National Climate Program

### 3.4.1 Assessing policy strength: the climate ambitiousness dimension

In the 2002 Red-Green coalition government declaration, a new domestic reduction target was introduced: Germany is to reduce the emissions of all GHG by 40% before 2020 if the EU as a whole commits itself to a 30% reduction within the same time frame (Federal Government 2002: 27). The national allocation plan and the 2005 climate program take the 21% CO<sub>2</sub> reduction target of the Kyoto/EU burden-sharing

as point of departure, and not the more ambitious domestic 40% target, when defining the overall target and targets for different sectors<sup>37</sup>. The climate program does not discuss why the 25% CO<sub>2</sub> reduction target was not attained. Moreover, in the program no additional measures are introduced to acquire an over-fulfilment of the Kyoto target or that the conditional 40% target is within reach. The only thing that is stated is that reaching the Kyoto levels will pave way for more ambitious targets in the future, and that Germany will try to make the EU commit itself to a stricter target (ibid.: 50).

The energy and industry sector, i.e. emissions trading sector<sup>38</sup> is to reduce the CO<sub>2</sub> by 2 million tonnes, commercial sector by 3 million tonnes and residential and transport sector can increase the emissions with 1 million tonne, all before 2007. In annually estimated numbers this means that energy and industry shall reduce by 0.67 million tonnes, commercial by 1 tonne, residential and transport can increase by 0.33 million tonnes. The target of the energy and industry sector is possibly the least ambitious. The base period was warmer than average leading to the fact that CO<sub>2</sub> emissions of private households were about 10 million tonnes CO<sub>2</sub> under the levels expected under normal climate conditions (Matthes and Schafhausen forthcoming: 8). Hence, the level of emissions to be reached in this sector could be harder to reach. Moreover, there were two BAU scenarios in 2004. A RWI study assumed only a minimal reduction in emissions up to 2012 from industry and energy. Moreover, it assumed considerable emission reductions in sectors not covered by emissions trading, above all in the transport sector. In the policy scenario III study a pattern of development diametrically opposed to this is assumed (ibid.: 9-10). If the latter is correct, then it is the non-emission trade sectors targets that are the target which will be hardest to achieve.

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<sup>37</sup> The NAP sets caps for the emissions trading sector and for the non-emissions trading sector (BMU 2004). The Allocation Act 2007 (ZuG 2007) sets caps for sectors within the non-emissions trading sector. The 2005 climate program confirms the

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In summary, the overall target is less ambitious than the 25% target that was left. The cap is assessed as not very ambitious.

### **3.4.2 Assessing policy strength: the policy instrument strength dimension**

The first section below gives a brief overview of the strength of the 2005 climate policy instrument mix and its main instrument, the emissions trading scheme. The second section gives a closer assessment by focusing on the sub-dimensions bindingness, specificity, scope and compliance mechanisms.

#### **3.4.2.1 The 2005 climate policy instrument mix**

Similar to 2000 policy mix, that of 2005 is also complex, with all instrument types present. Furthermore, many policy instruments are still ongoing, among these the VAs. However, the VAs are not as central as before. With the National Allocation Plan of March 2004, the emissions trading instrument became the main instrument in the German climate policy mix (BMU 2005b: 4). Classification of emissions trading is not straight forward. This variant (cap and trade scheme) has a command and control element. The cap shall not be transcended, but if this does happen sanctions are imposed. What the companies choose to do to be in compliance, whether they choose internal abatements or buying allowances, is largely up to them. Thus, emissions trading is located somewhere between regulation and economic means, but it can be claimed that it is closer to the latter. The 2005 climate program focuses on the sectors not included in emissions trading and especially the residential and transport sector. Table 3.3 below shows some of the most important instruments in the 2005 climate policy combination.

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targets defined in the NAP and the ZuG 2007 (BMU 2005b: 5-6). This is also the case for sectors not participating in emission trade. Thus, the climate program is oriented towards the 21% target (ibid.: 4).

<sup>38</sup> I equate the emissions trading sector with the energy and industry sector. This is a simplification. Almost all installations in the energy and industry sector are covered by the scheme, and some installations in other sectors are also covered.

**Table 3-3 2005 Climate program policy instruments classified**

<b>Regulations</b>	<b>Economic means</b>	<b>Voluntary Agreements</b>	<b>Information</b>
Renewable Energies Act	Emissions Trading	Voluntary Agreements with Industry and Energy	Information Campaign in Transport sector
Transport: Substitution of other Fuels with Bio-fuel	Environmental Tax Reform		
Residential sector: Introduction of ENEC 2006 and Energy Certificates, Change in Housing Law	Combined Heat and Power		

### 3.4.2.2 A more detailed assessment: the sub-dimensions of policy instrument strength

#### **Bindingness**

The 2005 climate program is only a declaration of intent and not legally binding. Moreover, the policy instruments differ in regard to bindingness; information campaigns are not binding whereas the eco-tax, renewable energies act, CHP are examples of legally binding instruments.

In contrast to voluntary agreements emission trading is legally binding. Like other directives, the EU Emissions trading directive has a legally binding status once implemented into German law. In Germany, the EU emission trading directive was transposed into national legislation by two laws and two ordinances. The laws were the Greenhouse gas Emission Allowance Trading Law (TEHG) and the Allocation Law 2005-2007 (ZuG 2007). The two ordinances were the Allocation Ordinance 2005-2007 (ZuV) and the Costs Ordinance (EHKostV) (Umweltbundesamt DEHSt 2005: 3).

#### **Specificity**

The 2005 climate program has targets and timetables for the country as such and for each sector. In regard to emissions trading instrument, article 7 of the TEHG states



that the federal government shall make a national allocation plan for each period stating the total quantity of allowances that shall be allocated in this period<sup>39</sup>. Thus, it can be argued that the emissions trading instrument follows a target and timetable approach.

Moreover, the EU ETS directive declares that the Member States shall provide for the establishment and maintenance of a registry (European Commission 2003: Article 19). In the TEHG it is declared that an authority shall lead an emissions trading registry. This registry shall have form of a standardized electronic databank. Every company with installation covered by the scheme has an account where every issuing, holding, transfer and cancellation of allowances is registered. The registry shall also be accessible to the public (TEHG: Article 14). Hence, at the outset the emissions trading scheme is potentially quite transparent. The transparency of the system could serve as an incentive for operators not wanting to be ‘shamed and blamed’.

The German allocation law, ZuG 2007, permitted the greatest possible flexibility in applying for allowances. The law includes several allocation rules, both general rules and special provisions<sup>40</sup>. It has been argued that the many allocation rules and the many possible combinations of the rules make the system less transparent (Umweltbundesamt DEHSt 2005: 13).

In summary, the emissions trading instrument follows a target and timetable approach; the registry offers transparency but the many allocation rules make the system less transparent.

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<sup>39</sup> This is a blueprint of what is stated in the EU ETS directive.

<sup>40</sup> The general rules were that companies had to apply for allowances based on their historical emissions of the base period or according to emissions prognosis. The most important special rules include taking into account early actions, process emissions, combined heat and power, shut-down of nuclear plants.

## Scope

The 2005 climate program covers all sectors of the economy and all greenhouse gases. However, it does not introduce many new instruments and it only slightly intensifies existing instruments. If one looks at the emission reduction trends of different sectors, these were growing in residential sector, so it can be seen as problematic that not more/intensified instruments were introduced here<sup>41</sup>.

The new main policy instrument, the emissions trading instrument, only covers CO<sub>2</sub><sup>42</sup>. But the instrument covers 58% of the country's CO<sub>2</sub> emissions and CO<sub>2</sub> amounts to 90% of total GHG emissions in Germany (BMU 2002b: 43). Moreover, if one looks at the different GHG emission trends of Germany, the reduction figures for the other GHG were more positive than for CO<sub>2</sub><sup>43</sup>. Hence for Germany the ETS CO<sub>2</sub>-only approach is more ambitious than a 6-GHG approach<sup>44</sup>. In the energy and industry sector almost 95% of all installations are covered by the scheme. In addition, some installations in other sectors are covered (BMU 2005b: 48). In summary, the ETS can be argued to have a broad scope.

The 2005 climate program does not introduce many new or intensified instruments in the residential sector. However, since the main instrument in the program has an ambitious scope, overall, it can be argued that the scope of the policy mix is quite ambitious.

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<sup>41</sup> Given emission reduction trends, the program can be argued as being too weak on instruments in the residential sector. Had it not been for the EU ETS the scope in regard to the energy sector would also have been weak.

<sup>42</sup> In the pilot phase (2005-2007) of the scheme only CO<sub>2</sub> is covered, however in the Kyoto phase other gases might be introduced.

<sup>43</sup> See the 2005 Climate Program pp. 10 (BMU 2005b).

<sup>44</sup> It can also be argued that an only-CO<sub>2</sub> approach is more ambitious than all 6 greenhouse gases of the Kyoto Protocol approach since a 6-GHG approach would make the instrument more complex and thus less transparent.

## **Compliance mechanisms**

With the new emissions trading instrument, economic means and regulations dominate over voluntary agreements and the instrument of information in the 2005 policy mix.

Concerning the emissions trading instrument, the Commission has made guidelines for monitoring and reporting. The EU ETS directive declares that the Member States shall ensure that emissions are monitored in accordance with these guidelines; that every operator of an installation reports the emissions from that installation (European Commission 2003: Article 14). Moreover, it declares that Member States shall ensure that these reports are verified (*ibid.*: Article 15). In Germany this is the responsibility of the German Emission Trading Authority (DEHSt).

TEHG Articles 17 and 18 state that by the end of April every year plant operator must surrender allowances to cover their actual emissions in the year. If a plant operator does not surrender sufficient allowances, a financial penalty will be levied per non-surrendered allowance. This penalty is set to 100 euros. However, in the first period it is set to 40 euros. There is also a hardship clause for this first period<sup>45</sup>. In addition to the financial penalty, the non-delivered allowance would have to be deducted from the allocated budget of the plant in the following year. Moreover, the names of those who are in non-compliance will be published (TEHG: Article 17 and 18). These sanctions are blueprints of those mentioned in the EU directive.

The EU ETS is actually the first time EU environmental legislation mandates member states to impose a penalty on the Member States own firms if they are in non-compliance (Zapfel 2005: 173). The compliance regime of the EU emissions trading scheme is quite strict, although in the period 2005-7 there is a hardship clause and the penalty is lower. Nevertheless, it can be argued that the possibility of this penalty

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<sup>45</sup> Member states may apply to the Commission for certain installations to be issued with additional allowances in case of force majeure (European Commission 2003: Article 29).

should also serve as a strong incentive for operators to surrender enough allowances, since it will be much higher than the market price. The firms also have to make it up again in the next period. Publishing the names of those who are in non-compliance is an example of shaming and blaming.

It is clear that the compliance regime of the emission trading instrument is strict. With emissions trading and regulations dominating the policy mix, the policy is quite constraining.

### 3.4.3 Summing up: German climate policy strength 2004-2005

Table 3-4 summarises the discussion on the NAP/2005 climate programs climate policy strength.

**Table 3-4 2004/2005 Climate policy strength**

NAP/ 2005 Climate Program	Policy Instrument strength				Climate Ambitiousness
	Bindingness	Specificity	Compliance Mechanisms	Scope	
<b>Emissions Trading (ETS)</b>	Legally Binding	Targets, Timetables, registries, many allocation rules, combinations, making it complex	Monitoring/reporting/verification, Financial Penalties, publishing names	Important Energy sector covered (and industry), only CO <sub>2</sub>	Cap for the energy and industry sector is higher than one based on the VAs
<b>Policy Mix</b>	Many regulations, ETS is binding	Targets, timetables, also for sectors, ETS is specific but a little complex	Many regulations, ETS has strict compliance mechanisms	Few new/intensified instruments residential sector. ETS cover important energy sector/CO <sub>2</sub>	21% GHG target

Overall, the NAP/2005 climate program seems quite strong on climate policy instruments although weaker on climate ambitiousness. This is assessed more closely in the following section where the 2004 NAP/2005 climate program is compared with the 2000 climate program.

### 3.5 2004/2005 Compared to 2000: a Change in National Climate Policy Strength?

This section compares the 2004 NAP/2005 climate program's ambitiousness and policy instrument strength with that of the 2000 climate program. The question is raised whether the 2004 NAP/2005 climate program when compared with that of 2000 meant a strengthening or weakening of the climate policy mix, and hence if there have been changes in German climate policy strength from 2000 to 2004/2005.

#### 3.5.1 Changes along the climate ambitiousness dimension?

Has there been a change along the climate ambitiousness dimension from the 2000 climate program to the NAP/ 2005 climate program? Table 3-5 shows the percentage reductions in CO<sub>2</sub> and GHG, both with a 1990 baseline.

**Table 3-5 GHG and CO<sub>2</sub> reductions in 2000 and 2004/2005**

	<b>National Climate Program 2000</b>	<b>NAP/ National climate program 2005</b>
<b>% CO<sub>2</sub> reduction with a 1990 baseline</b>	25% in 2005	15% in 2007, 17% in 2010
<b>% GHG reduction with a 1990 baseline</b>	26% in 2005, 32% in 2010, 45% in 2020	21% in 2010

Comparing the data in the table above we see a quite remarkable reduction in ambitiousness has taken place. The 2000 climate program was to lead to larger reductions of all GHG and of CO<sub>2</sub> in 2005 than what the NAP/2005 climate program is intended to do by 2010.

Table 3-6 showing the annual estimated CO<sub>2</sub> reduction for each sector in million tonnes (the numbers are averages).

**Table 3-6 Annual estimated CO<sub>2</sub> reduction 2000 and 2004/2005 in mill. tonnes**

CO <sub>2</sub> reductions	2000 National Climate Program	National Allocation Plan/2005 National Climate Program
Energy	4-5	0.67
Industry		
Commercial		1
Transport	3-4	0.33
Residential	3.6-5	

The table shows that overall the ambitiousness has declined although it is problematic that the sector divisions in 2000 and in 2004 do not coincide.

Concerning the main instrument in the policy mix, the VAs are more ambitious in terms of amount of CO<sub>2</sub> to be reduced than emissions trading. It has been shown (Matthes and Schafhausen forthcoming: 12) that the cap for the emission trading sector is about 15 million tones higher than a cap based on the VAs.

In summary, the ambition of the NAP/2005 climate program is lower than that of the 2000 climate program. This relates both to the overall targets and the sector targets. Moreover, the ambition of the emissions trading is considerably lower than for the VAs.

### **3.5.2 Changes along the policy instrument strength dimension?**

Comparing the 2005 climate program with the climate program of 2000, there were not many new or intensified instruments. The ETS had replaced the VAs as the main instrument in the policy instrument mix. What did this change mean in terms of bindingness, specificity, scope and compliance mechanisms? Firstly, the ETS is legally binding whereas the VAs were only declarations of intent and thus not binding.

Both the VAs and the emission trade instrument have quantified targets and timetables. The VAs is non-transparent with the many different agreements based on different criteria. The emissions-trading instrument, as implemented in Germany, is also quite complex with many allocation rules. However, compared to the VAs, the registry of the ETS improves the transparency somewhat suggesting that the specificity of the ETS was better than that of the VAs (as an indication of policy strength).

The compliance regime of the emissions- trading instrument is manifestly stricter than that of the VAs. The ETS has strict monitoring, reporting and verification practises. Moreover, it has listing of non-compliant operators and most importantly, quite substantial financial penalties. This is in contrast to the VAs, which have an implicit sanction of introducing stronger instrument if the goal is not reached.

In regard of scope, similarly to 2000, all sectors and all gases were included in 2005 and many different policy instruments were used. But in contrast to the VAs the emission trade instrument only covers CO<sub>2</sub>. Since the reduction trends of the other GHG are more positive, this makes the ETS scope more ambitious. However, the 2005 climate program does not include many new instruments in the residential sector. Nevertheless, ETS covers the important energy sector. All aspects taken into consideration the scope in 2005 is assessed as slightly broader than that of 2000.

### **3.5.3 Summing up: changes along the climate ambitiousness and policy instrument strength dimension?**

There has been a change along the policy instrument strength dimension from 2000 to 2005. The policy instrument strength in 2005 is a stronger than that of 2000. This is mainly because the emissions-trading instrument is binding, slightly more specific, has a more ambitious scope and stronger compliance mechanisms than the voluntary agreements. The ETS was the exception in 2005; otherwise only very few new instruments were introduced or intensified in the 2005 climate program. There has also been a change in the period along the climate ambitiousness dimension. The

NAP/2005 climate program is considerably less ambitious in regard to emission targets: the 2000 program aimed at a 25% CO<sub>2</sub> reduction, while the NAP/2005 climate program had left the 25% target for the less ambitious international 21% GHG target. Moreover, the cap for energy and industry sector under emissions trading is less ambitious than a cap in line with the VAs.

Table 3-7 summarises the main developments in German climate policy strength from 2000 to 2004/2005.

**Table 3-7 2004/ 2005 Climate policy strength as compared to 2000**

	Policy instrument strength dimension				Climate ambitiousness dimension
	Bindingness	Specificity	Scope	Compliance mechanisms	
<b>2004 NAP/ 2005 climate program as compared to 2000 climate program</b>	Stronger	Slightly stronger	Slightly stronger	Stronger	Less ambitious
	Stronger/slightly stronger				Less ambitious

Two converse developments have taken place in the period: climate ambitiousness has decreased while policy instrument strength has increased. What does this say about policy strength? It is this question to which we turn in the following.

### 3.6 Conclusion: Interpretation of Converse Policy Strength Developments and Specifying the Dependent Variable

How can these converse developments in climate policy strength be interpreted?

Could it be that Germany decided to have stronger instruments in order to catch up for lost time? Could it be that the decision-makers focused on stronger instruments rather than ambitious targets, thinking that with strong instruments the targets would be reached, and this was better than not being able to reach any target at all?

As many studies have shown; the German government did not want the EU ETS. It led a campaign against the ETS at the EU level as late as in 2002 (Wettestad and Sæverud 2005: 11). Moreover, German industry, through the BDI and VCI, lobbied heavily on the German position and at the EU level institutions through UNICE, their



EU level peak organisation (Butzengeiger et al. 2003: 221, Lefevre 2005: 103, Interviews). There were groups in Germany that wanted emissions trading: the Green party, the BMU, ENGOs and companies such as BP and Deutsche Bank (Lefevre 2005: 103, Interviews). However, Watanabe (2005) has shown that when Germany finally adopted the ETS directive, this was not due to a change of preferences by majority of German decision-makers, but more to the fact that Germany would have been outvoted. The decision was under the qualified majority voting rule, and the other EU countries wanted (and needed) the ETS. Those interviews in this study confirmed this view: Germany adopting the ETS was due to the multilayered governance system. The largest EU-15 country was mainly forced to approve a strong policy instrument.

Above, it has been pointed at Germany adopting the ETS was the element which made the 2005 policy mix stronger than that of 2000. Given the reason for Germany adopting the ETS, it seems as though the most puzzling development in this period and thus the most interesting to explain with internal (national, sub-national) and external factors, is the decrease in climate ambitiousness. However, being a strong instrument, the ETS might have contributed to this development by making the costs clearer and creating resistance among targeted groups. Moreover, explaining the reduction in climate ambitiousness may also shed some light on why Germany did not want a stronger policy instrument. However, this is not the main purpose of the study. Summing up, the study seeks to explain decreasing climate ambitiousness, i.e. two developments: 1) Reduction in overall climate target: why the 25% CO<sub>2</sub> target was abandoned for the 21% GHG target; 2) Reduction of climate target for the energy and industry sector: Why one got a cap under the ETS that was less ambitious than that based on the VAs.

When did these two climate ambitiousness developments take place? The 25% CO<sub>2</sub> target was included in the 2002 coalition declaration and the 2002 national communication to the UNFCCC: it was not present in the January 2004 NAP draft. Thus, it seems like the 25% target was left in the period 2002 to 2004. The cap for the

energy and industry sector in the NAP draft was in line with the VAs while the cap in the final NAP of March 2004 was higher. Thus, the cap-increase occurred during a two-month period in 2004.

The length of the time frames of these two developments is different. What kind of implications does this have? The 25% target was not left at a specific date. One can only draw causal inferences if one knows that the independent variable changed value before the change in value of the dependent variable took place. Since the exact time for the leaving of this target is somewhat uncertain causal inferences will have to be made with caution. Given this clarification, however, for simplicity reasons it will be assumed that the 25% target was left in January 2004 and that only explanatory factors which changed value before 2004 that might contribute to explain why this target was abandoned. There is also another implication of the time frames: the cap was increased during a two-month period. This could have been too short a period for using the explanatory model of this study: too short period for learning and preference change to take place, moreover one will not expect the power balance to shift in this period. Furthermore, it might be plausible, but, less likely that the decision-makers gained new information concerning abatement costs during these two months. Then, why is it interesting to explain the cap-increase?

The decision to increase the cap is interesting because it can shed light on how general trends and changes in Germany materialises in a concrete decision. Events that took place in these two months can trigger other and longer working trends for instance changed preferences or groups that have been strengthened the last years. Hence, even if abandoning the overall target and the change of target for the energy and industry sector are two separate developments, there are good reasons for assuming that both developments are expressions of the same trend, and that the same forces will be behind these two developments.

## 4 Explaining Reduced Climate Ambitiousness

### 4.1 Introduction

This chapter addresses the second research question: *What has caused the change in German climate ambitiousness from 2000-2005?* – i.e. which explanatory factors can account for this change? In the formulation of propositions it was taken as simplifying starting point that both climate ambitiousness and policy instrument strength had decreased. However, the discussion in chapter 3 showed that while climate ambitiousness has decreased, policy instrument strength has arguably increased in this period.

As explained earlier, this study will seek to explain why climate ambitiousness has decreased, that is two developments: why the overall climate target has been reduced from a 25% CO<sub>2</sub> target to the 21% GHG target, and why the energy and industry target has been reduced from a cap based on the VAs to a less ambitious cap. The first development took place over several years, the second development during just 2 months in 2004. I will assume that both these developments can be explained by the factors chosen. However, since the cap was changed in short time, it is not reasonable to think that the factors have changed value in this period. Indeed, in this period, events might have taken place which have actualised these trends (factors with changed value). Alternatively, that longer trends became visible in the cap-process. Thus, the factors important in explaining why the 25% target was left may explain why events which happened in this period became important.

In this chapter, each factor will first be discussed separately: any changes in the factor will be noted and whether such changes can explain decreasing climate ambitiousness. In the final part of the chapter the different factors will be discussed together and focus will be on how they have worked together and their relative importance in explaining decreased climate ambitiousness.

## 4.2 Internal Factors

Focus is placed on four internal factors: learning from domestic experience, changes in abatement costs, changes in the power relationship between Green and Grey forces in government and changes in the power relationship between Green and Grey societal pressure groups.

### 4.2.1 Learning from domestic experience

The main assumption in regard to learning from domestic experience was:

*P1: Learning from domestic experience may have taken place. German decision-makers may have learned that large reductions have been made, thus there was no need for ambitious climate policy (preference change). This learning and preference change may contribute to explain decreasing German climate ambitiousness.*

In the first section the question if there have been learning from domestic experience with GHG emission reductions and climate measures will be addressed. In the second section a discussion is entered into whether these domestic experiences can explain the changes in German climate ambitiousness.

#### 4.2.1.1 Have there been any changes at the domestic level 2000-2005?

The discussion about the national allocation plan really started in Germany in 2003 (Zöckler 2004: 60). What was the status concerning the implementation of German climate targets at that time? Had the 2000 climate programme lead to CO<sub>2</sub> reductions? And if so, were these reductions of such a size that the National Allocation Plan and the 2005 National Climate Programme did not have to be ambitious? The development in CO<sub>2</sub> emissions in the period is shown in table 4-1.

**Table 4-1 CO<sub>2</sub> developments (in mill tonnes) 1999-2003 per sector and overall**

CO <sub>2</sub> emissions in	1999	2000	2001	2002	2003
<b>Energy generation</b>	351.6	364.0	368.9	378.1	385.1
<b>Industry</b>	141.3	141.8	137.3	134.0	130.9
<b>Transport</b>	181.9	178.3	174.6	172.5	166.5
<b>Residential</b>	119.9	116.8	131.2	120.1	122.4
<b>Commercial</b>	62.6	59.2	61.8	59.1	60.3
<b>Total emissions</b>	857.4	860.0	873.8	863.8	865.3

*Source: BMU 2005b*

During this period the total CO<sub>2</sub> emissions have not been reduced but a stabilisation or a slight increase of the emissions has taken place. In the residential sector, and especially in the energy generation sector, emissions rose in this period: in the transport sector, industry sector and commercial sector, emissions decreased. Since 1990 the emissions in the transport sector have increased. The above data show that Germany managed in to reverse this trend.

If we look at the 25% national CO<sub>2</sub> target, Germany had not come closer to this target by 2003; in fact the country had actually a slightly longer way to go.

If we look at the Kyoto target, we have to take into account the development of the other five greenhouse gases of the Kyoto protocol. Statistics show that emissions from the other greenhouse gases have been reduced in the period. Different gases have experienced different developments and CO<sub>2</sub> is the most important greenhouse gas (BMU 2005b: 10). In 1999 the six greenhouse gases altogether were reduced by 18.2 % compared to 1990 levels. In 2003, the emissions from the six greenhouse gases were reduced by 18.5 % compared to the 1990 levels (ibid.: 10). This is slightly better than the situation prior to the climate program, but it was no remarkable emission

reduction. The reduction rate in prior periods was much higher, also without this ambitious climate programme.

Germany is one of three countries which appear to be on course to meet their Kyoto burden-sharing targets with the measures already in place (Mullins and Karas 2003: 11). Others, especially German environmental groups, have argued that the 21% target is not that easy to reach and with the measures already in place this target may not be reached (Interviews).

How did the VAs, the main instrument in the 2000 climate program, function? By 2005, 16 of the 17 branches had reached their targets, the exception being the most important sector, the energy sector (ibid.). A widely held opinion was that VAs work when it does not hurt, and when it hurts then it does not work! VAs give business as usual reductions (ibid.). Many argued that one of the reasons why the VAs were made was that the BMU minister at that time, Töpfer, needed to show something, and that industry wanted to escape from the ecological tax reform (ibid., Pehle 1997: 188). Others argued that the decision-makers were learning that more reductions would be hard; industry had to grow at some time (Interviews).

What about the effect of the second most important policy instrument of the climate program, the combined heat and power? CHP had come far in the process but had not been introduced. There are many reasons for this<sup>46</sup>. Another factor that was mentioned as a reason for smaller emission reductions was that it was lacking money in order to undertake the energy modernisation in the household sector (ibid.).

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<sup>46</sup> Such as over-capacity of power plants in Germany, the agreed nuclear phase out next 15-20 years, power industry did not know which direction technology was to develop and were thus not willing to invest at that time (Interview).

#### 4.2.1.2 Can learning from domestic experience explain decreasing climate ambitiousness?

Was the decreased climate ambitiousness a result of successful German climate policy? Had so much emission reduction already taken place that an ambitious climate policy was no longer necessary? The GHG emission trends since 2000 paints another picture: CO<sub>2</sub> emissions have not decreased, and for all the GHG in total there is only a slight decrease. Thus, a successful policy on emission reductions up until 2003 cannot explain decreasing climate ambitiousness.

Had German decision-makers learnt that even if ambitious emission reductions were required, they were hard to achieve? Several of the interviewees argued that the 21% target showed a more realistic view on what was possible with the measures at hand (ibid.). It has been argued that the difference between the performance level and the aspiration level should not be too wide. Ambitious targets can be beneficial although if the target is too ambitious it is easily seen as neither realistic nor legitimate. Hence, can the decision on leaving the 25% target be explained by the fact that the decision-makers learned that this gap was too big? I will argue that when answering this question the instruments at hand and available instruments, especially those in the important energy sector, will also have to be taken into account.

Did the country lack effective instruments or were there no such instrument available? On the one hand, German decision-makers had learned that the voluntary agreements did not result in large emission reductions. On the other, emissions trading was a strong instrument that could have helped Germany reaching its ambitious target. However, Germany wanted to keep the voluntary agreements and strongly opposed the introduction of the emissions trading and it cannot therefore be the case that decision-makers learned that there were no effective policy instruments available.

Many interviewees argued that the political climate for large emission reductions were not favourable. As several of the interviewees pointed out: “It required the

political will which at that time was difficult for sure” (Interview). In a parliamentary discussion one Social Democratic Party (SPD) representative argued that energy efficiency improvements could be made with many lignite plants. Moreover, he maintained that a structural revolution in energy sector was not necessary for reaching the climate targets: the 21% target was possible to reach with only a slight structural change (Deutscher Bundestag: 2004: 8801). This seems to suggest that there was no will for deep structural changes such as phasing out coal<sup>47</sup>. To reach the 21% target, it was not necessary and neither was it seen as necessary, to over-achieve this target. The interviews gave the impression that the climate for an ambitious climate policy had worsened in this period. Thus, even if strong instruments were available, this was not seen as politically possible. Others pointed at decision-makers were learning that broader consensus was more important now. It was argued that this seeking for broader consensus may weaken the overall target (Interviews).

Can learning from domestic experience with emission reductions explain the cap-increase? As maintained earlier, decreasing ambitiousness cannot be explained by the many emission reductions already made making an ambitious policy not longer necessary. With the ETS, a low cap would most certainly lead to ambitious emission reductions (since the ETS instrument is a strong instrument). In regard to the 25% target, there is evidence indicating that an ambitious policy was politically problematic. It is likely that that also was the case in the cap-setting.

Why had the decision-makers learned that it was not politically possible with an ambitious climate policy (ambitious targets and instruments)? Moreover, why was a broader consensus seen as more important now? Examination of some other important factors can shed further light on this. These questions will also be addressed in section 4.4 where the factors are assessed together.

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<sup>47</sup> Germany has a tradition of subsidizing coal. This will be discussed more in detail in section 4.2.2.1 under fuel switch potential.



## 4.2.2 Abatement costs

Let us recapitulate the second proposition on why this change in German climate ambitiousness has taken place:

*P2: Changes in decision-makers' assessment of abatement costs may have taken place, for instance may decreasing energy efficiency potential increase abatement costs. These changes may contribute to explain decreasing German climate ambitiousness.*

First changes in abatement costs will be summarised. Second, the extent to which these changes explain the developments in German policy strength will be discussed.

### 4.2.2.1 Increasing abatement costs?

If the 2000 climate programme was implemented, what would this mean for the German economy? A comparison of a reference scenario with projections can give some indication of this. As mentioned earlier, the 2000 climate programme referred to a prognosis showing that with the policy instruments in place only a 15-17% CO<sub>2</sub> emission reduction would be reached. Moreover, with the 2000 program's new measures, the 25% emission reductions would be achieved. Thus, it can be argued that the climate programme aimed at large reductions over short period. This indicates that abatement costs from implementing the programme could be high. Costs from abatement will largely depend on where the costs are concentrated. There are two important questions here: Are emissions concentrated in a sector with high fuel switch and energy efficiency potential? How important is this sector is for the national economy? In 2000, 41.2% of German CO<sub>2</sub> emissions stemmed from the energy sector. The energy sector is also very important for the national economy of Germany.

Energy efficiency is summarised below and an indication given whether the fuel switch potential has decreased in this period. An indication is also given of the change of main instrument from VAs to ETS and whether this meant a decrease in national

abatement costs. Lastly an indication is given as to whether the German economy's ability to handle abatement costs has decreased.

### **Decreasing energy efficiency potential?**

The East German industry was very inefficient. Mez and Watanabe (2004: 115) point out that approximately 500 billion Euros<sup>48</sup> was used in the 1990s for the reconstruction and privatisation of the energy sector<sup>49</sup>. They further state that these instruments were one of the reasons for the unified Germany's success in reducing CO<sub>2</sub> emissions (Mez and Watanabe 2004: 115). Since energy efficiency improvements already made makes the marginal costs of new abatement higher (Fischer 1988: 228-229), this made the 2000 energy efficiency potential lower. However, in 2000, it was considered that there was still quite large energy efficiency potential (BMU 2000b: 21-22).

Have there been changes that might have lead to a decrease in the energy efficiency potential? As maintained earlier, the liberalisation of the power market started in this period. The intent was that more competition should bring down energy prices. One effect of competition could be that companies would close energy inefficient plants. However, there were concerns that lower prices would be detrimental to the stimulation of energy efficiency (Wettestad 2005: 9). Thus, the picture on energy efficiency impacts of the liberalisation was not that clear cut. In 1998, the liberalisation process started in Germany (Erdmann 2000). The German market has historically enjoyed a certain diversity of power generation (Eikeland 2004: 10). After liberalisation, many power companies merged and the competition decreased (ibid.). However, since it was unclear whether an increased competition would stimulate energy efficiency improvements, this can also be said about a situation with decreased

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<sup>48</sup> Mez and Watanabe (2004: 115) point to the fact that this was not, as many argued, a free lunch, Germany had to spend hundreds of billions of euros on this.

<sup>49</sup> Reconstruction and privatization of brown coal mining, establishment of competitive market for private companies in the oil sector, shut down of nuclear plants, establishment and privatization of local power plants, abolishment of energy price subsidies, improvement of energy efficiency in buildings and implementation of environmental regulation.

competition. I will treat the increase in power market concentration in more detail when Green and Grey pressure groups are discussed in section 4.2.4.1.

In 2000/2001 the German federal government reached an agreement<sup>50</sup> with the energy sector to terminate the use of nuclear energy in Germany. Two nuclear plants were taken out of operation in 2002 and 2004 respectively. The next two nuclear power plants will be shut down in 2007 and 2008 (Diekmann and Kemfert 2006: 9). However, the nuclear phase-out will not accelerate before around 2010 (Michaelowa 2003: 41). Studies showed that this phase-out would remove barriers and thus increase energy efficiency<sup>51</sup>. Some argued that the assumptions in these studies about the degree of energy efficiency increases seemed very optimistic (Michaelowa 2003: 41). Summing up, it is unclear whether the energy efficiency potential has increased or decreased during the period under investigation.

### **Decreasing fuel switch potential?**

It has been stated that the fuel switch potential was considerable in 2000: 36,8 % of energy and process CO<sub>2</sub> emissions stemmed from coal, followed by oil and gas, gas only 17,5% (Ziesing 2006: 115). One could argue that there was potential here in switching from coal to gas similar to what happened in the UK<sup>52</sup>. Not only was coal the main fuel, it was heavily subsidised. In 2001 the country stood for about two-thirds of the EU Member States aid to coal (two-thirds of 6319 million Ecu) (Eikeland 2004: 14). If these subsidies were abolished<sup>53</sup> Germany would save money. On the other hand, this could lead to jobs being lost in the coal industry where some 30.000 were employed. Coal subsidies decreased only slightly in the period (ibid.).

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<sup>50</sup> The agreement was reached in 2000, signed in 2001 and the amended version entered into force in 2002 (Diekmann and Kemfert 2006: 9).

<sup>51</sup> See, for instance, Fishedick et al. (2001) study for the BMU. Here it is concluded that the phase out would not jeopardize future emission targets.

<sup>52</sup> The switch from coal to gas was a result of economic policy in the UK in the 1980s and early 1990s. Two of the main elements were a drastic slimming of the state administration and privatization of many sectors (Boehmer-Christiansen and Skea 1991:122).

<sup>53</sup> EU has for a long time wanted a phase out of coal subsidies (Eikeland 2004:14).

If the liberalisation of the power and gas markets led to more competition, this would give an incentive for power companies to switch to a cheaper fuel. If gas was made cheaper as an effect of increasing competition, this could facilitate a shift from coal to gas. Similar to the case of the liberalisation of the power market, 1998 liberalisation of the gas market has not led to more competition and gas prices remain high (Diekmann and Kemfert 2006: 4). Another development in the period was the nuclear phase-out. Since new capacity would have to enter to substitute nuclear, the phasing out of nuclear would indirectly increase emissions from the electricity sector. A third development was the emerging renewables sector (BMU 2006b). Germany had an ambitious renewable energy target in this period, and the EEG act<sup>54</sup> was a success and from 2002 there was an explosion of renewable energy firms (Interviews). This increased the potential for fuel switch. Summing up, the picture is not clear cut: there are developments which have served to increase the fuel-switch potential (i.e. renewables), while others (i.e. nuclear phase-out) may have decreased this.

### **Switching from VAs to EU ETS – increase in national abatement costs?**

Scientific studies by different research institutions were published in 2003. One concluded that the EU ETS could lead to cost savings of many million euros since Germany would be a net seller of CO<sub>2</sub> emission rights (Öko-institut et al. 2003: 147). Another pointed at the importance of having enough CO<sub>2</sub> emission rights and that economic growth should not be restricted by a low cap (RWI 2003: 43). A third report concluded that ETS was more cost-efficient than VAs (Interview). Overall, it does not seem as though the national abatement costs were to increase with the change of instrument. Germany could earn from ETS, efficiency could be improved, although there were warnings that a low cap could harm growth.

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<sup>54</sup> A very effective but not cost-efficient policy has boosted renewable energy in Germany throughout the last decade. It started with investment subsidies and continued with guaranteed feed-in tariffs set out in energy feed in the law of 1991. Wind energy grew particularly rapidly. In 2002, Schleswig Holstein generated more than 50% of its electricity use from wind. In the amended EEG act all types of renewables received feed-in tariffs (Michaelowa 2003: 38).

### Increasing vulnerability of the German economy?

Has German economy's vulnerability increased? Weak GDP and increasing unemployment are indicators of this. The tables 4-2 and 4-3 show GDP and unemployment developments in the period:

**Table 4-2 GDP developments 2000-2003**

Year	2000	2001	2002	2003
<b>GDP</b>	+ 3.1%	+ 0.6%	+ 0.2 %	- 0.1 %

*Source:* Federal Statistical Office Germany 2001, 2002, 2003, 2004

**Table 4-3 Unemployment developments<sup>1</sup> 2000-2003, absolute and relative numbers**

Year	2000	2001	2002	2003
<b>Unemployment (millions)</b>	3.25	3.11	3.25	3.7
<b>Unemployment rate (%)</b>	7.8%	7.4%	7.8%	8.7%

<sup>1</sup> The total number of unemployed persons (European definition). The rate: the share of unemployed persons in the total number of the economically active population.

*Source:* Federal Statistical Office Germany 2001, 2002, 2003, 2004

The GDP table shows that with the exception of the 2000 GDP figure, growth has been weak in this period. In 2003 the growth figure was negative. After unification (1991-2003) only 1993 showed a weaker growth than the years 2003, 2002 and 2001 (Federal statistical office 2004, 2003, 2002). The second table shows that unemployment has risen in absolute and in relative numbers. The figure was slightly better in 2001, but the general trend in the period is increasing unemployment to around 3.7 million people in 2003. Summing up, the tables indicate that the economy's vulnerability to costs has increased in the period.

**Summing up: increasing abatement costs?**

Did abatement costs increase from 2000-2004? The picture is not clear and it is uncertain whether the energy efficiency potential and the fuel switch potential decreased or not. Studies pointed at a possible decrease in national abatement costs from a shift from VAs to ETS. However, one study argued that a strict cap would hamper economic growth. GDP showed weak figures and unemployment rose in the period. Given this, it is likely that the economy's ability to handle abatement costs decreased in this period. Summing up, it seems as though there was no clear increase in abatement costs although costs in general may have become more problematic.

**4.2.2.2 Can increasing abatement costs explain decreasing climate ambitiousness?**

It is not clear if the abatement costs increased during the period, and consequentially rising abatement costs cannot explain the decreased climate ambitiousness.

Nevertheless, the vulnerability of the German economy increased. Costs in general and also lost jobs were more problematic now than previously. The implementation of the 2000 climate program, reaching the 25% target, meant substantial costs. Given the rising unemployment, reducing employment in the coal industry as a consequence of ending subsidies, and stimulating a fuel switch, would seem less advantageous.

Hence, it can be argued that not abatement costs *per se* but a German economy more vulnerable for costs can have played a role in the abandonment of the 25% target. It is however possible but not very likely that even if the economy was more vulnerable for costs this did not contribute to the abandonment of the target. It is possible that for instance the politicians chose to over-look this information. I will argue that for vulnerability to costs to be important it must have been given attention in the political process. When the factors are assessed overall in the end of this chapter consideration will be given to whether the increasing vulnerability of abatement costs was given attention by politicians – whether it strengthened Grey forces in the government or society, or whether it contributed to a learning and preference change.

In 2003, the discussion about the national allocation plan really started. Growth was especially weak in this year and unemployment was rising. However, could this make a difference in the 2 months in 2004 when the cap was increased? As far as I know the decision-makers did not gain new information as to the weakness of the economy in these two months but, as pointed out earlier, it might be that events during these two months acquired increased importance due to the increased vulnerability of the economy, or that these trends triggered costs concerns. This will be investigated in section 4.4.3 where an overall assessment is given of these factors. The nuclear phase-out had to be integrated into the EU ETS allocation (Mattes and Schafhausen 2005: 13-14). Thus, can this phase-out explain the cap-increase? The nuclear phase-out had already been taken into account in the NAP draft (Bals: 2004), hence concern over the nuclear phase out cannot explain the cap-increase from the draft to the final NAP.

### **4.2.3 Power relationship: Green and Grey forces in government**

The main assumption of the influence of this factor is:

*P3: The Green forces in government may have been relatively weakened, for instance may the Green forces have been weakened due to weak election results. These changes may contribute to explain decreasing German climate ambitiousness.*

This section commences by discussing whether Green forces in government have become relatively weakened. Then, it is discussed whether a relatively weakening of Green forces can explain the decrease in climate ambitiousness.

#### **4.2.3.1 Have the Green forces in government become relatively weakened?**

This section commences by showing possible changes in the relative strength of Green political parties. Then possible changes in the relative strength of the Ministry of Environment will be discussed.

**Have the Green party and the government as such become weakened?**

There was a federal election in 2002. The Red-Green coalition stayed in power and the Greens won their largest number of votes at the federal election since they were founded. This made it the third largest political party in Germany. SPD lost votes, but fewer than estimated some weeks earlier (Jung and Roth 2002: 9). Thus, in the second Red-Green coalition the Green party was somewhat strengthened vis à vis the SPD. The Green party is known as more environmentally friendly than the SPD. Thus one could claim that this meant a strengthening of the Green forces in government.

However, the 2002 federal election results also show that SPD lost more votes than the Greens gained; thus, overall the government was weakened (against the opposition) (ibid.). Moreover, in the second chamber (Bundesrat) the opposition parties had the majority and may have weakened the capacity of the government to follow up on policies for instance with regard to climate policy. This may have led to a weakening of the Green forces in this period.

**Has BMU become relatively weakened?**

This section examines whether the BMUs competences and possibility to intervene has decreased, whether the BMU minister has weakened, and if the BMUs institutional capacity has decreased.

*Has BMU competences and possibility to intervene decreased?*

What was the situation like in 2000 in regard to BMUs powers and possibility to intervene in climate policy? The BMU formulated climate targets and the other ministries followed up targets with measures. This organisational distinction was seen as problematic (Böckem 2000: 4). Earlier, to improve the situation the inter-ministerial working group (IMA) on CO<sub>2</sub> reduction was established<sup>55</sup> and BMU was

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<sup>55</sup> 13 June 1990, the federal government established “CO<sub>2</sub> reduction” inter-ministerial working group, which is charged with identifying the potential for GHG reductions, especially CO<sub>2</sub>. In the framework of IMA and under the chairmanship of BMU, working parties were established for the following topics: energy supply, transport, buildings and structures, new technologies, agriculture and forestry (BMU 2002b: 1).



to lead the horizontal coordination of the more influential pollution ministries (Jänicke et al. 2006: 18). This functioned only when substantial interests of other sectors were not affected (Böckem 2000: 5). Michaelowa (2003: 34) argues that stalemates and block action have been frequent. Some give the IMA a more positive assessment arguing that even if the influence of the BMU is limited, the other ministries are forced to justify their policies (Böckem 2000: 6). Summing up, in 2000, the institutional preconditions for BMU influence on climate policy were quite weak.

Have there been any changes in BMUs powers and possibilities to intervene in the period under investigation? BMUs role has changed from being mainly a coordinator in 2000, to an initiative-taker in developing climate policies and measures. One of the developments that caused this change was the Chancellor's decision to set up another IMA sub-group on emission inventory in addition to the five existing measures. This sub-group was chaired by the BMU (Mez and Watanabe 2004: 112-113). Another development was that BMU gained the responsibility for renewable energies in 2002 (Mez and Watanabe 2004: 121). Thus, BMU has gained responsibility for instruments in this policy area. A third development was the 2001 sustainable development strategy which introduced a more vertical integration of environmental concern (Jänicke et al. 2006: 18). A reflection of this change is that the BMU has gone from being a controller to partner in regard to the implementation of decisions from super ordinate organs (ibid.). Summing up; BMU is still dependent on other ministries on policy instruments. However, developments in this period have lead to a growth in BMUs powers and strengthened its possibility to intervene.

#### *Has the BMU minister become relatively weakened?*

Due to the increase in BMUs powers and possibilities to intervene, it can be argued that the BMU ministerial position in the government has been strengthened. Is the BMU minister viewed as stronger? If one is to compare the political clout of the BMU and BMWA ministers in this period, Trittin and Clement, they were both viewed as strong ministers. Clement was "super-minister", minister for both economy

and employment, having a very strong position in government (Interviews). However, in this period the Hartz 4 labour reform<sup>56</sup> was introduced, and it has been argued that this occupied most of his time. In many peoples' eyes he also failed on this and became weaker in government towards the end of the period (ibid.). Trittin was viewed as strong throughout the whole period (ibid.) and it could be claimed that the Green forces were relatively strengthened. Nevertheless, some maintained that Trittin's largest accomplishments were during the SPD/Green coalitions first term in office from 1998-2002 (ENDS Daily 2005)<sup>57</sup>.

*Has the BMUs institutional capacity decreased?*

Has the institutional capacity of the BMU decreased in the period? Table 4-4 presents development of the BMU and BMWI budget since 1998<sup>58</sup>.

**Table 4-4 BMU and BMWA budget developments, in 1000 euro**

Ministry	Budget 98	Budget 03	Budget 04
<b>BMW A</b>	16 145 737	30 508 193	32 951 325
<b>BMU</b>	1 212 408	794 022	789 414

*Source: Bundeshaushaltsplan 1998, 2004*

During the entire period under investigation the BMWA budget has been considerably larger than that of the BMU. Moreover, the budget of the BMWA has grown quite considerably while that of the BMU has been reduced. Have there been developments as to the number of employees in these two ministries? In 1998 Ministry of Economics had 1718 employees as against 740 in the Ministry of Environment

<sup>56</sup> In 2002/2003 Germany began to tackle some of the rigidities of its labor market with the Hartz and Agenda 2010 reforms (Ardy and Umbach 2004: 17). These reforms seem to be driven by German domestic considerations, notably the need by the government to be doing something about the employment problem (ibid.: 22).

<sup>57</sup> During this period an energy tax programme was launched, nuclear electricity generators were forced to agree to phase out their reactors and generous feed-in subsidies for renewables were introduced.

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(Bundeshaushaltsplan 1998). Unfortunately, I do not have data showing the development in employees. However, Jänicke argues in 2006 that BMU frequently had insufficient personnel so that it cannot be an appropriate counterweight in the inter-ministerial tuning (Jänicke et al. 2006: 20). Thus, it seems as through the BMU has fewer personnel resources than BMWA, but it is hard to assess if the difference has been increasing or decreasing. Developments in the budget and number of employees have to be seen in association with developments in tasks. Have there been changes in the tasks of the different ministries in this period? In 2002, the BMU gained the responsibility for renewable energies and a sub-group under the IMA. In 2002, there was also a reorganisation of the ministries in Germany and two ministries became one BMWA, the Ministry of Economy *and Labour*. One of the main tasks for this ministry was to implement a major reform, the Hartz 4 reform, whereby, a large proportion of the BMWA budget increase (especially from 1998-2003) can be explained by this. Summing up, looking at budgets and employees BMUs institutional capacity has decreased, although the Hartz 4 reform absorbed many resources. Hence, there was no clear relative weakening in the BMU's institutional capacity in this period.

*Summing up on the relative strength of the BMU*

BMU's relative strength has not decreased but increased, in fact, during the period: the BMU's power and possibility to intervene has increased and the BMU minister has been viewed as relatively strengthened vis à vis the BMWA minister. There have been no big changes in regard to BMUs institutional capacity in the period.

**Summing up: Have the Green forces in government become relatively weaker?**

The Green party was strengthened vis à vis the SPD after the 2002 federal election. However, the coalition in total was a little weakened. The BMU has become relatively

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<sup>58</sup> It can be argued that changes in budgets and numbers of employees only leads to changes in policy strength if it leads to more/less activity/reports, more/less knowledge etc. However, unfortunately I have not been able to find data on this.

strengthened. Overall it seems as though the Green forces have been strengthened in this period.

#### 4.2.3.2 Can a relative weakening of Green forces in government explain decreasing climate ambitiousness?

Overall, the Green forces were strengthened in this period, so this cannot explain the decrease in climate ambitiousness: abandoning the 25% target or the cap-increase.

Mez and Watanabe (2004: 121-122) have argued that with the Greens gain of negotiating power in the coalition government they succeeded in strengthening environmental policies in the new coalition agreement which included a long term target of reducing GHG by 40% by 2020.

Given the strengthening of the Greens and the weakening of Clement due to “failure” with the Hartz 4 reform, and the fact that the cap was Trittins table the ultimate cap-increase is somewhat strange. In the period BMU has also gone from being mainly a controller, to a partner of the ministries responsible for polluting activities in regard to the implementation of decisions from super ordinate organs. However, that this change has its limits was shown in the conflict over the cap.

The BMU minister, Trittin, stood against the BMWA minister, Clement and the climate between the two ministries was hostile and tense (Interviews). The state secretary of the BMU and of BMWA agreed on a compromise; however, Clement refused to accept the compromise of his own state secretary (Point Carbon 2004a). In the end, a compromise was reached on 30. March, the day before the final deadline for submitting the NAP to the commission. Chancellor Schröder was involved in reaching this compromise and which was mostly directed towards the BMWA (ENDS Daily 2004). How can this be explained?

It has been argued that part of the reason why the ministers agreed on this more BMWA-friendly compromise was that there was a horse-trade cap for the renewable energies act (Interviews). The renewable energies act was amended the same week as

the decision on the cap was taken. Moreover, BMU had gained responsibility for renewable energies, but they needed agreement with the BMWA. But why did it have to come to a last minute horse-trade, given a stronger BMU and Green party? This question will be addressed in the section 4.4.3 where the interplay of factors is discussed.

#### **4.2.4 Power balance between Green and Grey societal pressure groups**

Let us repeat the proposition on Green and Grey societal groups and their influence on German climate ambitiousness:

*P4: Green societal pressure groups may have been relatively weakened. For instance, may Grey pressure groups concentrations have increased strengthening their lobby power. These changes may contribute to explain decreasing German climate ambitiousness.*

The first section discusses Green pressure groups and whether they have been relatively weakened in this period. The second section discussed whether changes in the relative strength of the Green forces can contribute to explain the decrease in climate ambitiousness.

##### **4.2.4.1 Have Green forces become relatively weaker?**

First, aspects relevant for Green and Grey forces mobilisation will be discussed prior to a consideration of any relative weakening of Green pressure groups in this period.

##### **Have there been changes in preconditions for societal pressure groups mobilisation?**

For Green forces to mobilise, visibility is central. If the problem activity in question stems from point sources that are easy to identify and visible, ENGOs are mobilised as a counter balancing force to target groups. Both the VAs and emissions trading

instrument, target visible point sources. Hence, there has been no change in regard to Green forces reasons of mobilisation.

For Grey forces to mobilise, distribution of costs is central. Climate policy instruments could spread costs on many sectors. It can be argued that the 2000 climate programme had a policy mix that was diffuse with costs spread over many sectors. Moreover, VAs was the main instrument in the policy combination. In the VAs there were no explicit sanctions in the case of non-compliance, and costly emission reductions were optional.

The emissions trading instrument was to become the most important policy instrument. Similar to the VAs it targeted mainly the energy and industry sector, but it was binding and costs became clearer. However, caps also had to be set for other sectors. Hence, it was possible to give the emission trading sector a high cap and push costs over to other sectors. Moreover, the energy and industry sector is essential for the German economy; the companies under the industry associations have market power and can threaten with job losses. Hence, the instrument hit the social centre. If it is likely that costs will be concentrated, this could trigger mobilisation and pressure against the policy. Since this sector is central for the German economy it is more likely that decision-makers will yield to pressure.

**Organisation degree/concentration: Relatively weaker Green pressure groups?**

Böckem argued in 2000 that industry associations and unions influence German climate policy much more than ENGOs and the renewables industry (Böckem 2000:8). One of the main reasons was that the Green side was more fragmented than the polluting industries (ibid.: 9). Moreover, the companies under the industry associations had market power and could threaten to cut jobs (ibid.: 9).

In the period under investigation the renewable energy sector has grown in Germany. Especially since 2002, this sector has exploded. Several associations have been built – solar, wind, biogas etc. (Interview). Many have argued that the renewables sector

have become more powerful, but at the same time the industry is still fragmented and does not have a strong unified lobby (Interviews). Even if the renewables industry has grown, the fact that they were still fragmented could make it hard for them to target a centralised climate policy decision process. As mentioned earlier, concentration of power generators has increased in Germany. When liberalisation started in 1998 there were 8 companies which were protected by area-monopoly, but following liberalisation, the power companies merged into four at the federal level (and 40 at the regional level). The four largest companies cover about 80% of the country's electricity production (BMWA 2003, 11 ff). Of these four two dominate: E.ON and RWE. The competition has decreased in Germany and the power market has become an oligopoly (Monopoly commission 2004). E.ON and RWE are under investigation for market power misuse (Interview). Several of the interviewees argued that this concentration in the energy sector has increased the lobby power of the power industry (Interviews). Thus, it appears as though liberalisation contributed to an increase in concentration, but how was this possible? This will be assessed in the section 4.4 when the interplay of factors is looked into.

### **Access to committees: relatively weaker Green pressure groups?**

The inter-ministerial working group, AG Emissionshandel (AGE) was established on 18. October 2000 to investigate the emissions trading instruments and to follow the discussion about this at the EU level (AGE 2002). From the beginning and throughout the period under investigation three ENGOs have had a seat in AGE; Germanwatch, WWF and BUND. However, the majority of stakeholder groups present were companies in the energy and industry sector. Both ENGOs and industry described AGE as a "polite talking circle". Some argued that it was basically to keep people quiet. Others pointed at it as a pleasant way of acquiring knowledge (Interviews). There was no change in the power relationship between Green and Grey pressure groups in regard to who was invited to sit in this group (ibid.). If there is no agreement at the working level, the discussion is taken to the level of the Chancellor. This is a small circle and there is no tradition for inviting in ENGOs although the big

power companies all belong to this circle (ibid.). There were no changes in who was invited into this circle in this period (ibid.).

In summary, there was no change in Green forces formal access possibilities in the period.

**Informal access pattern: relatively weaker Green pressure groups?**

It was argued in 2000 that industry associations had the best channels for influence. Industry associations had contacts to BMWA which was in charge of policy instruments (Böckem 2000: 10). Moreover, they had close links with politicians, for instance the energy companies had close links to the SPD (ibid.: 11). The ENGOs had good contacts to the BMU which was only in charge of target-setting (ibid.: 10).

Have there been changes in Green forces informal access to German decision-makers in the period? There are still close contacts between ENGOs and BMU officers (Interviews). The BMU contact is of more importance given the increasing strength of the BMU in this period. Many have also argued that BMU is a knowledgeable actor, and that it in the emissions trading case had better knowledge than that of the BMWA (ibid.). Moreover, the ENGOs views are taken more into account when the Green party is in government. This is because the Green party has more understanding for civil society, the SPD mainly represents “the little worker” (Interview). The strengthening of the Green party after the 2002 election made the Green party a more important contact. Moreover, in the period the industry had good contacts with the BMWA. There are close links between the ministry and the power companies (ibid.). Industry does not have good contacts with the BMU and lack of trust from both parties is said to be the reason for this. In addition, the power companies and the coal industry also had good contacts with SPD, and Chancellor Schröder was known for opening the doors to the big power companies (ibid.).



Summing up, it appears as though there were no changes in informal access patterns, although the importance of the ENGOs channels appeared to have increased since both the Green party and the BMU gained strength in this period.

### **Summing up: relative weakening of Green societal pressure groups?**

Have Green societal pressure groups become relatively weakened in the period? The picture is not entirely clear. Power companies' concentration increased in the period and there has been no change in regard to Green groups' access at the level of the chancellor in this period: Green groups are still not invited in. However, the strengthening of the BMU and the Green party has given the Green forces stronger contacts.

#### **4.2.4.2 Can relative weakening of Green societal pressure groups explain decreasing climate ambitiousness?**

Can relative weakening of Green societal pressure groups explain decreasing climate ambitiousness? The Green societal pressure groups gained stronger channels of influence, although, as has been pointed out in section 4.2.3.2, the strengthening of the Green party and the BMU cannot explain the decrease in climate ambitiousness.

Another change in regard to the power balance between Green and Grey societal pressure groups took place in this period – the concentration in the power market increased. Can this development contribute to explain the decision on leaving the 25% target? The emissions in the energy sector were rising. In order to reach the 25% target, large emission reductions would have to take place in the energy sector. If this were to take place, the power sector would probably lobby strongly against it. It is reasonable to believe that concentration in the energy sector and these actors good contacts with leading politicians and the main party in government SPD, contributed to Germany abandoning this target and focusing on the 21% target instead.

Can the increasing concentration in the power market contribute to explain the cap-increase? The cap in the drafted NAP was in line with the VAs (Matthes and Schafhausen forthcoming: 13). This was a target that BDI and the BMWA had accepted (Zöckler 2004: 52). The big environmental organisation, BUND, argued that this cap was almost acceptable even if it meant a less ambitious target than the 25% target of the 2000 climate programme (BUND 2004).

The emissions trading instrument was to hit the energy and industry sector. However, binding targets would also have to be set for the other sectors so they were also hit. Did this lead to energy and industry sector mobilisation? Faced with the possibility of concentration of costs, the power companies mobilised. It appears as though lobbying by the industry was one important reason for the cap-increase (Wettestad and Sæverud 2005: 19). The state secretary of BMU tried to use the different interests of the various industrial branches, but it did not work: industry managed to have one common front in the cap issue (Interview). The split that later came between energy-intensive companies and the power companies was at that time not that big and both wanted a high cap: if the emission-cake were big enough there would be no losers (ibid.).

The renewables industry could benefit from a strict cap but had no clear strong voice in the debate, the reason being that it was still an emerging and fragmented sector (Interviews). The BMWA and BDI started to argue that the cap was too low and that they wanted growth reserves and full allocation (Bals: 2004). In February 2004, it was reported that meetings were abandoned or boycotted by industry and that the situation was generally unpleasant. It was also reported that many interest groups tried to affect the system (Point Carbon 2004b).

As the decision-makers did not manage to agree at the working level, the discussion was taken to the level of the chancellor, where the four big power companies but no ENGOs were present (Interviews). ENGOs wanted Trittin to make the cap a question of coalition. But he did not do this. One of the reasons for this was that the ETS was

complicated to understand and had little support in society (ibid.). March 2004 the BDI president expressed his satisfaction with the BMWA minister Clement because burdens on the industry had been avoided (ENDS Daily 2004). Thus, it seems like the industry lobby must have worked.

However, the ENGOs also mobilised (Interviews), and the BMU and the Greens had been strengthened in the period. It is therefore interesting to ask: why the German decision-makers gave in to industry pressure in the cap case? Is the increased concentration and thus enhanced lobby power, the full explanation of why this happened, or were there also other elements that made industry's successes possible? This question will be discussed in section 4.4.3 when the interplay of factors is discussed.

## 4.3 External Factors

This section discusses the influence of the two external factors presented in Chapter 2. Firstly, changes in EU climate/energy policy will be assessed. Secondly, German decision-makers learning from climate performance of other EU-15 countries will be discussed.

### 4.3.1 Changes in EU climate/energy policy

Let us recapitulate the proposition on EU policy influence on German climate ambitiousness:

*P5: Changes in EU climate/energy policy may have taken place. For instance may the EU ETS directive have established high caps for Member States. These changes may contribute to explaining decreasing German climate ambitiousness.*

This section starts out by describing changes in EU climate policy, and to some extent, energy policy. Thereafter, changes in EU climate/energy policy will be discussed and whether these can explain decreasing German climate ambitiousness.

#### 4.3.1.1 Changes in EU climate/energy policy that might impact on German climate targets?

Have there been any changes in EU policy on climate ambitiousness? It can be argued that there were no changes in EU policy on emission targets. Firstly, no new burden-sharing arrangement was adopted in this period. However, in 2000, the BSA became legally binding for every EU country independent of signing the Kyoto protocol. The EU's ratification of the Kyoto protocol in 2002 was a further statement of the BSA targets. Secondly, no country-specific caps were set in the EU Directive establishing the EU emissions trading scheme. However, in Annex III to the Directive it is stated that the total quantity shall not exceed what is needed, and shall be consistent with a path towards achieving or over-achieving the (BSA) Kyoto target (European Commission 2003: Annex III). The EU commission also expressed that the first phase 2005-2007 of the emissions trading scheme was a pilot phase. At the same time, there were clear prescriptions for certain ambitiousness in the cap-setting (Wettestad and Sæverud 2005: 5). The EU published a NAP guidance to assist Member States in the interpretation of the Directive. Here it is stated that the path towards Kyoto does not need to be a straight line (European Commission 2004: Article 12). This indicates Member States may set less ambitious caps for the period 2005-7 if the caps set for the second period, the Kyoto period, are more ambitious.

It was argued in Chapter 2 that EU policy changes may influence national policies through influencing domestic politics. Two such indirect impacts were mentioned. Firstly, as described in Chapter 3, the introduction of emissions trading in Germany meant a strengthening of the climate policy instrument combination. Compared to the VAs the ETS was legally binding, slightly stronger in regard to specificity and scope, and it had stronger compliance mechanisms. Hence, compared to the VAs, ETS made

the costs clearer with its absolute caps. Moreover, it made costs more certain due to its transparency and due to strict compliance mechanisms such as financial penalties. For more details on what the change of main instrument meant in terms of policy instrument strength see Chapter 3.

Another factor that could have had an indirect impact on German climate ambitiousness was the EU led liberalisation of the power market. It has been argued that the EU electricity directive basically offered a framework for further liberalisation of the electricity sector with considerable freedom for Member States to choose their own pace and regulatory measures (Eikeland 2004: 6). For instance, the Member States should opt for a system of regulated third party access but should not be derived the opportunity to apply a system of negotiated access (ibid.). The intent behind the directive was that the liberalisation should lead to more competition. This process could affect the energy efficiency potential; this has been assessed in section 4.2.2.1 on abatement costs. However, another effect of increased competition could also be a decline in power industry's market power. This could again weaken power industry politically in terms of lobbying power towards the state. As mentioned earlier, the liberalisation did not increase competition in Germany. In the period under investigation the power companies merged, and the concentration in the power sector was enhanced.

Summing up, there was no new EU policy on climate ambitiousness. However, the EU ETS, being a stronger instrument than the VAs and the effects of the liberalisation of the power market, may have changed the preconditions for domestic climate politics.

#### 4.3.1.2 Can changes in EU climate/energy policy explain decreasing climate ambitiousness?

Can new EU climate/energy policy explain decreasing German climate ambitiousness? First, can it explain the decision on abandoning the 25% target? No

new EU BSA came, thus this cannot explain why the target was abandoned. It was also mentioned in the EU ETS directive and the NAP Guidance that the cap was to show a path towards achieving or *over-achieving* the BSA-target (my italics). Hence, over-achieving the 21% target was possible in the cap-setting. Should one then conclude that EU climate policy cannot explain why the 25% target was abandoned?

At least one could argue that abandoning the 25% target was not an intended effect of EU policy on climate targets. However, it can be argued that it was an unintended effect. Several of the interviewees indicated reasons why the 25% target was abandoned. One interviewee stated that: “Remember these [25% target, target for renewables] are political targets (...) otherwise we have a real commitment, the EU burden-sharing” (Interview). Another interviewee claimed that “this [BSA target] is still the target independent of governments” (ibid.). Moreover, many pointed out that the BSA target was ambitious among the EU-15 countries (ibid.). Furthermore, in the FAQs to the climate program, the BMU answers the question on why the 25% target was abandoned. Here it is argued that since the BSA target became legally binding, this has been the target for Germany (BMU 2005a: 3). Moreover, it is stated that the 25% target was used to attain the goal of other countries committing themselves to stronger targets (ibid.).

How can these statements be interpreted? There are some strange things said here, for instance that the BSA target was the real target because it was independent of governments. This is a strange statement because this target was made by the Christian Democratic Party (CDU/CSU) and the Liberal Party (FDP) government in 1990 and all governments after this have confirmed this target<sup>59</sup>. This should have strengthened its position, and given it a higher status than just being a political target. The BMU statement is also somewhat strange: if the target was abandoned as early as in 2000, why was it confirmed in the 2002 coalition declaration and the 2002

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<sup>59</sup> The CDU/CSU/SPD government of 2005 was the first government not to confirm this target (Federal Government 2005).

communication to the UNFCCC? Moreover, if the function of this target was to influence other countries to set more ambitious targets; why was this function not important after 2000? Were there set more ambitious targets in the EU-15 after this? As far as I know, this was not the case. How could these statements then be interpreted?

A common view among the interviewees was that the 21% target was the real target; that it was internationally binding. It can be argued that when the EU made the BSA legally binding, the status of the German BSA target increased, and that this was used to legitimise abandoning the 25% target. Hence, an EU policy change i.e. making the BSA legally binding, had the unintended effect in Germany that it legitimised a move away from the more ambitious domestic target. This was an unintended effect since the EU stated that an over-achievement of the BSA target was fine.

To the question of why the government decided to abandon the 25% target, one interviewee argued that it was strange that the Greens went along on this (Interview). It can be argued that it is somewhat strange that the BMU and the Green party went along with using the BSA to legitimise abandoning the 25% target. Why this happened will be discussed in section 4.4.2, when the interplay of factors is taken up.

Can the developments in EU policy explain the cap-increase? In the period under investigation the EU ETS directive was adopted. The EU emissions trading directive did not contain country-specific caps, so this cannot explain the cap-setting in Germany. Can one conclude then that this directive did not impact on the German cap-setting? I will argue “no”. The vague formulation in the Directive in regard to ambitiousness and the emphasis on the period 2005-7 as a pilot phase gave room for flexibility. Moreover, it made “gaming” between and within Member States possible. Member states and analysts expected less ambitious caps in this first period. For instance, Schleich et al. (2004: 114) argue that one thought at that time that policy makers would probably choose rather soft targets to get the system “off the ground” rather than face stiff opposition from industry lobby groups. This will be discussed

more in detail in section 4.3.2 when the next factor is assessed; learning from the climate performance of other EU countries.

The ETS directive may also have had another impact on cap-setting. The EU ETS directive was to establish a *strong* instrument. It was binding and slightly more transparent. It can also be argued that the cap made the costs clearer. Some of the interviewees pointed out that “emissions trading made the costs visible”, and “CO<sub>2</sub> got a price”. The costs in case of non-compliance became more certain due to enhanced transparency, thus non-compliance would be more easily detected and when detected, non-compliant companies would have to suffer financial penalties. Many interviewees pointed out that now it became serious. This was something that could trigger industry mobilisation. As has been pointed out earlier, industry mobilisation was one of the important factors explaining the cap-increase. The potential indirect impacts of the ETS Directive and the liberalisation of the power market will be assessed in section 4.4 when the factors are discussed jointly.

### **4.3.2 Learning from climate performance of other EU countries**

Let us repeat the last proposition:

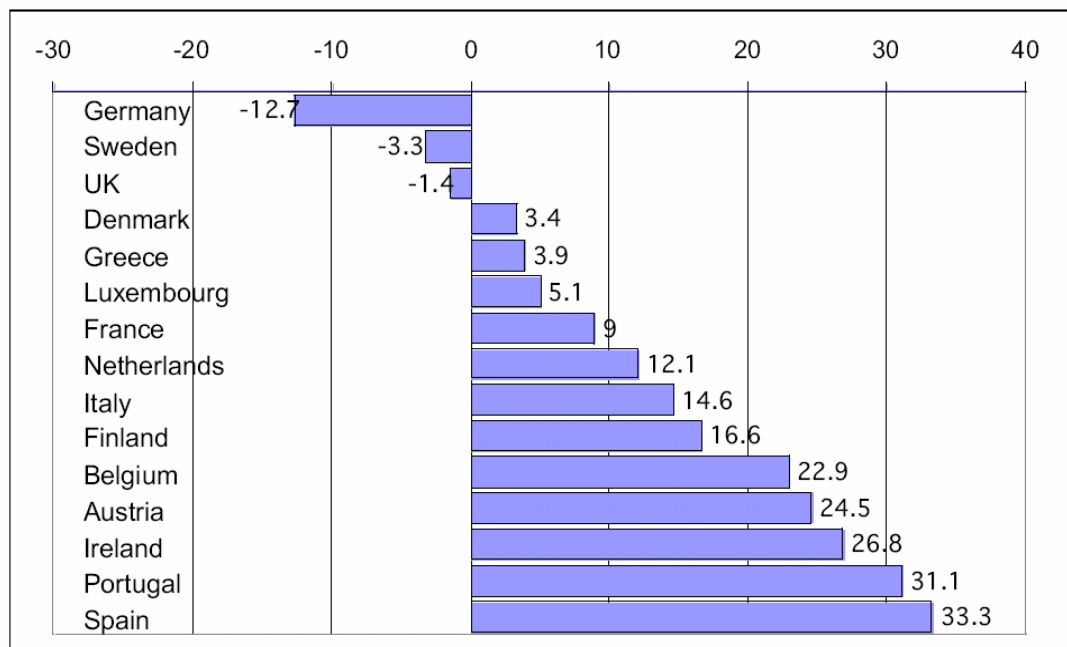
*P6: Learning from the climate performance of other EU countries may have taken place. German decision-makers may have learnt that EU Member States do little for climate protection and decided that it should also not do much on this. This learning and preference change may contribute to explain decreasing German climate ambitiousness.*

This section starts out describing changes in the climate performance of EU-15 countries and how these changes have been interpreted in Germany. Then, whether preference changes may explain decreasing German climate ambitiousness i.e. abandoning the 25% target and the cap-increase is discussed.



#### 4.3.2.1 Learning from worsening climate performance of EU-15 countries?

The following figure illustrates the distance between the BSA commitment and projected<sup>60</sup> GHG emissions in 2010 for the EU-15 countries.



**Figure 4-1 Gap between BSA commitments and projected GHG emissions in 2010**

*Source: EEA 2002*

The figure shows that only Germany, UK and Sweden were on track to reach their Kyoto commitments with the measures already in place. Instead of reductions, it appears as though several Member States will increase their emissions considerably.

Did the weak GHG reduction trends of the EU-15 countries lead to German decision-makers learning that others do little and they also would not have to do much?

Germany has constantly proclaimed that it is and wants to be a climate policy leader (see for instance BMU 2002a, Bang et al. 2004: 11). The thought is that if Germany shows a good example, the other EU countries will follow. As one interviewee commented: “What others do is not that relevant since Germany thinks the others will follow” (Interview). Germany’s leader role has also met growing resistance from

<sup>60</sup> Projections with existing policies and measures. Negative figures represent over-delivery, while positive figures represent shortfall from emission target.

central German actors and from Germany industry, and many have asked how long Germany will have to lead before the others follow suit (Interviews). Moreover, many have expressed concern about the situation for German industry if Germany is going to be a leader alone (BUND 2004, Interviews). Some interviewees mentioned that the BMU does not listen to industry's concern (Interviews). Could it be concluded that there has been no preference change in this period? The BMU has argued that Germany can be a leader, but there will be no going alone (see for instance BMU 2005a). Moreover, German decision-makers have stressed that the other EU countries should not leave their commitments and many have expressed concern over this development (Interviews).

What was the cap status of other EU Member states? A few Member States, the UK for example, had national emission reduction targets which were more ambitious than their BSA commitment (Mullins and Karas 2003: 6)<sup>61</sup>. By the end of 2003 it had not been determined whether the UK would take the more ambitious national target as point of departure in the cap-setting. The national target was well established in UK policy (ibid.: 58). Moreover, there were clear signals that most Member States would not set strict caps (ibid.: 29). The UK cap was increased at the time of the German cap-increase (Interview, Matthes and Schafhausen forthcoming: 6).

### **Summing up on learning from other Member states actions**

Had German decision-makers learned that since other EU countries do little in regard to climate policy, Germany would not have to do much either? In 2003 a GHG reduction figure showed that while Germany was on track to reach its BSA target, most EU-15 countries would have problems reaching theirs. Moreover, there were signals that EU countries would decide on high caps. The interviewees argued that what other EU countries do is not that relevant for Germany, since Germany wants to be a climate policy leader. Hence, one could conclude that the answer to the question

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<sup>61</sup> UK has a national target of 20% CO<sub>2</sub> emission reduction by 2010 (Mullins and Karas 2003: 56).

is “no”. But there is some evidence pointing in the opposite direction. There was a slight change in the BMUs emphasis: from leader to increasing emphasis that there would be no going alone. Hence, I would argue that learning took place in the period and could have contributed to a slight preference change.

#### 4.3.2.2 Can decision-makers learning from unambitious climate performance of other Member States explain decreasing climate ambitiousness?

Can this slight preference change due to learning that others do little explain why the 25% target was abandoned? I would maintain that it is plausible that such a preference change played a role when this target was abandoned. The German BSA target was one of the most ambitious in terms of CO<sub>2</sub> reduction. Sticking to the 21% target would keep Germany among the countries with the most ambitious targets. Following the 25% target would mean going alone. Hence, I believe that this preference change can shed light on the decision to abandon the 25% target in favour of the 21% target. It is however, difficult to say how important this was.

Can this learning and slight preference change explain the cap-increase? Matthes and Schafhausen (forthcoming: 6) claim that announcements of the developments of NAPs in the EU Member States played a fundamental role in the process, above all developments in UK. Moreover, policy by rumours was an important and really problematic facet of the political discussion in Germany (ibid.: 33-34). As mentioned above, the UK cap was increased. Given the statement of Matthes and Schafhausen above it is likely that these cap-signals were important for the German decision to increase the cap.

This slight preference change whereby Germany not want to reduce targets alone, may explain why these cap-signals were important. If such a preference change had not taken place, why should Germany care about other countries cap-setting and cap-increase? Then the country could set ambitious caps for the first period of the ETS

and maybe this would encourage the other Member States to set higher caps for the ETS second period: the important Kyoto period.

In a parliamentary speech 12 March 2004 on the TEHG, the law transposing the EU ETS directive into German law, a SPD representative pointed to the fact that Germany had been a front-runner on climate policy instruments such as the EEG and the eco-tax and that other EU countries had followed after very long time, and that some had not followed. Moreover, he argued that it was positive that the EU ETS was introduced in all Member States at the same time, since it made harmonisation possible (Deutscher Bundestag 2004: 8801). In my opinion, this shows how the preference for not going alone manifested itself in the desire for a harmonised EU emissions trading instrument. One interviewee argued that everybody took UK as a benchmark. Moreover, the interviewee stated: “I think that is sensible (...) Europe as a whole has a commitment (...) and the EU Commission is the one judging the NAPs and it will do it in the light with all.” This statement also confirms the interpretation that the BSA was the target and that it was also natural in the cap-setting for Germany to follow the trend of other countries. Hence, it can be claimed that this preference change and the consequential desire for a harmonised approach can explain why the UK cap-increase and rumours about other Member States deciding on high caps contributed to the German decision of increasing the cap.

Summing up, learning from other EU members states climate performance has taken place, from leader to leader but no going alone. This slight preference change can contribute in explaining why the ambitious national target was left and why the cap was increased. But why did it come to this preference change? Was it only due to Germany seeing that EU countries did little, or was it also other factors that contributed to this preference change? I will return to this when the factors are assessed jointly in the next section.

## 4.4 Assessing the Factors Together

### 4.4.1 Summing up on the separate analysis: Many questions

In the separate analysis of each explanatory factors influence on climate ambitiousness, many questions arose. These are repeated below.

In regard to the first factor, it seems as though learning from domestic experience in the period has been that an ambitious climate policy is politically difficult to achieve. But why have German decision-makers learnt this?

In regard to abatement cost, the following questions arose: Was the increased vulnerability of German economy focused by decision-makers; did it strengthen the Grey forces, or did it contributed to preference change and learning among decision-makers? In regard to the cap-increase, no studies came out during these two months although it was possible that other events during this brief period may have triggered a potentially increased concern for costs. Did this happen?

In regard to the third factor, it was found that Green pressure groups were relatively weakened as a consequence of the increased concentration on the power market, and that this could contribute to explain why the 25% target was abandoned, and further, that industry mobilisation was an important factor in the cap-increase. What can explain the power sector concentration? Can factors other than increased concentration explain why industry's views were taken more into account?

EU policy developments have not influenced on German climate ambitiousness directly, or at least not directly by intent (EU making the BSA legally binding was used to legitimise the abandoning of the 25% target). However, the ETS directive was vague on climate ambitiousness and it made the costs visible, has this lead to industry mobilisation and “gaming” between countries?

The factor “learning from climate performance of other EU countries” was found to be important in explaining the decrease in climate ambitiousness. There was a German desire for no longer reducing emissions alone. However, can other elements have contributed to this desire of not going alone?

The sections below seek to explain the relationship of the explanatory factors, thereby shedding some light on the questions above. The first section investigates the interplay of factors in the decision on leaving the 25% target. The second section assesses the interplay in the case with the cap-increase.

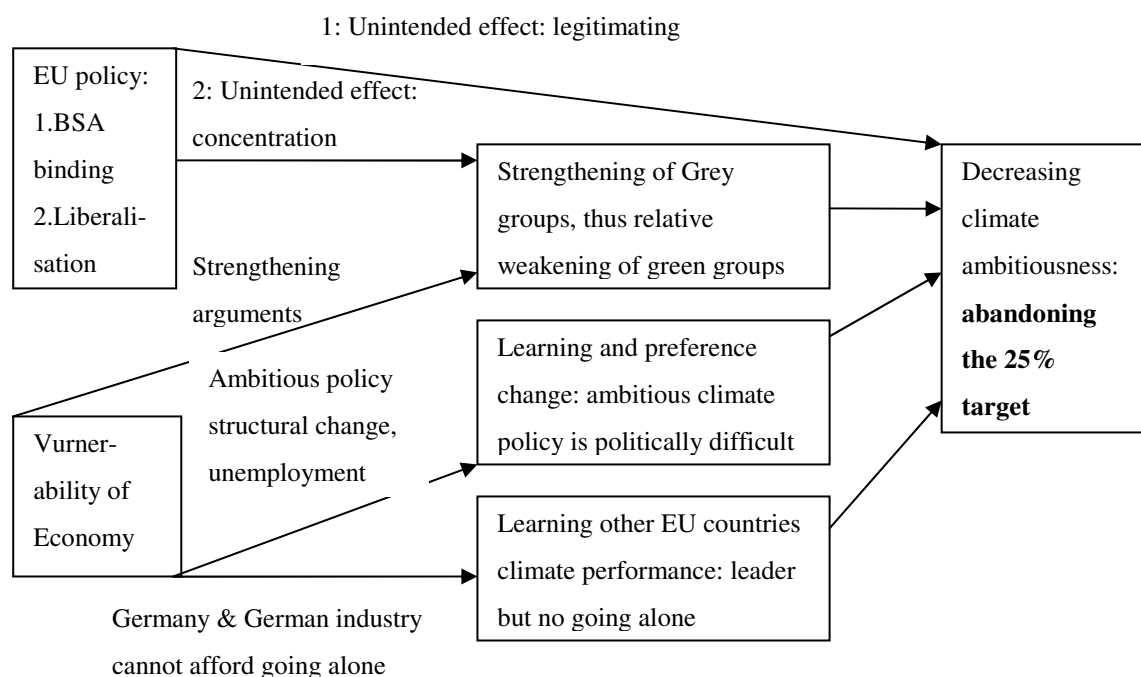
#### **4.4.2 Assessing the interplay of factors: the abandonment of the 25% target**

It is plausible that the increasing vulnerability of German economy, the weak GDP figures and the rising unemployment, lead to a strengthening of the industries’ arguments: the argument that “if you do this we will have to cut another 40,000 jobs” was even more threatening now than before (Interview). It was suggested that the 25% target meant substantial costs and that it most likely would require a restructuring of the energy sector. This could lead to job losses in coal sector for instance. Given that SPD was the “defender of the workers”, such a restructuring would be political problematic. This may explain why German decision-makers learned that ambitious climate policy was hard to achieve.

German decision-makers also saw that other EU countries did little to achieve emissions reduction, and learned that even if Germany was leading, the others were lagging behind. Hence, German decision-makers did not want Germany to go alone. The increased vulnerability of German economy also contributed to this preference change: if Germany was to go on leading alone, this would harm Germany economy and competitiveness of German industry. Many voices argued that industry’s competitiveness was threatened by ambitious targets.

It has already been pointed at how one change in EU policy impacted on the decision to leave the 25% target: The BSA becoming legally binding legitimising a move away from the more ambitious 25% target. Another EU policy change which also had an unintended effect was the liberalisation of the power market. There was great flexibility in the Directive as to how countries could choose to conduct the liberalisation. Germany opted for a negotiated approach (Jamash and Politt 2005: 4, Interview). The companies controlled much of the process themselves and mainly as a consequence of this the concentration on the power market increased (Interview). It has been mentioned that this concentration contributed to the increase in Grey pressure groups relative strength, and which was regarded as important in abandoning the 25% target.

This brief discussion on the abandonment of the 25% target may be summed up in the following figure.



**Figure 4-2 Explaining abandonment of the 25% target: Factors and their interplay**

#### **4.4.3 Assessing the interplay of factors: The cap-increase**

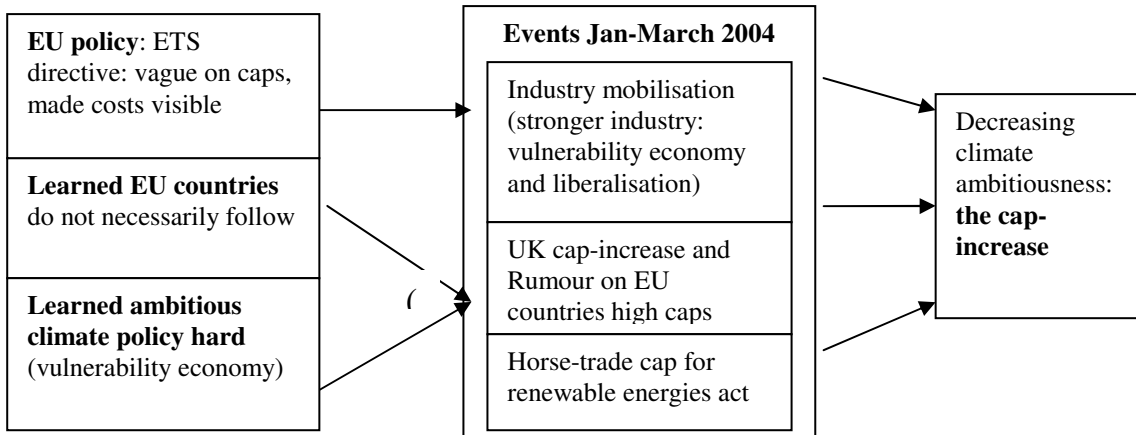
It was assumed in this thesis that the same factors that were potentially important for explaining abandoning the 25% target were important for explaining the cap-increase. Thus, the same explanatory model was taken as point of departure. The cap-increase only took place during 2 months in 2004, and it was not likely that much learning and power balance changes took place. However, events taking place in these two months may have triggered changes, or prior changes may have made the events important. Three of the events that took place during these two months can be claimed to have been important for explaining the cap-increase: industry mobilisation, UK cap-increase and rumours about the other EU countries deciding on high caps, and a horse-trade: renewable energies act for higher cap. However, it can be argued that the reason why these events got important can be found in many of the changes important for abandoning the 25% target.

The first important event was the industry mobilisation. Why was this important? First, industry strengthened itself politically as a consequence of liberalisation and the increasing vulnerability of German economy. This was important in explaining the abandonment of the 25% target. Since the ETS directive was vague on cap ambitiousness, decision on ambitiousness was to a large extent up to the Member States. This made it possible for pressure groups to try to lobby the domestic decision process. The emissions trading made the costs clearer, more certain and the costs fell on strong groups, which mobilised.

Decision-makers had learned that the other EU countries do not necessarily follow suit. Moreover, they have learned that it is politically problematic to achieve an ambitious climate policy. Given this, it would be even more problematic with an ambitious climate policy if other EU countries did not reduce their emissions very much: it would then be too heavy a burden on the German economy and industry. This can explain why the cap-signals became important, and less ambitious cap-signals lead to more understanding in Germany for a less ambitious German cap.



There was, however, conflict between the ministers: and it has been argued that at the end this resulted in the horse-trade. Renewable energies were also important for the Ministry of Environment. It is plausible that learning that others do little and that an ambitious climate policy is problematic, lead the Environmental Minister Trittin to approve the cap-compromise even when it only meant a symbolic emission reduction. This discussion on the cap-increase is summed up in the figure below:



**Figure 4-3 Explaining the cap-increase: Factors, their interplay and events**

## 5 Conclusion

The purpose of this thesis has been to measure and explain changes in German climate policy strength from 2000-2005. There were many reasons why this was viewed as important. First, not much work has been done in regard to measuring and explaining changes in *national* climate policy strength. Second, it is important to study climate policy strength in *Germany* because this nation is a large EU-Member State and has been one of the climate policy leaders. Moreover, it is interesting to investigate the extent to which large EU-countries such as Germany are influenced by developments in EU policy, or if changes are mainly due to internal developments. Third, *the period 2000-2005* is important because it starts with the first systematic expression of German climate policy after the EU BSA; the 2000 National Climate Programme. This programme was regarded as ambitious. When the next national climate programme commenced in 2005, the government was confronted with accusations of climate policy slow-down. Hence, it was interesting to see if empirical evidence supported the accusations of a climate policy slow-down in this period. Moreover, in the 1990s much relatively cheap emission reductions were made (wall fall profits) and it could be that the reductions have become more costly from 2000-2005. Moreover, a new grand policy experiment was started in this period: the introduction of the EU emissions trading scheme.

It was interesting to address two research questions for the reasons given above: *Has there been a change in German climate policy strength from 2000-2005? And if so, what has caused this change?*

*Has there been a change in German climate policy strength from 2000-2005?*

National policy strength is defined as the strength of the policy as it is framed in the national climate programs and the national allocation plan in the context of the EU ETS. This implies that this study assesses policy strength at the output level; moreover, that it assesses federal output. The strength of climate policy output is seen

as a function of ambitiousness of targets and strength of policy instruments. The approach for measuring climate policy strength will be discussed further below.

I found that while climate ambitiousness has decreased, policy instrument strength has increased in the period. The ambitious national emission target of 25% CO<sub>2</sub> reduction was abandoned for the less ambitious BSA commitment of 21% GHG emission reduction. In the energy and industry sector, there was a change of main instrument from VAs to ETS. The cap in the NAP draft was in line with the target under the VAs, but the cap in the final NAP was higher. The introduction of the ETS meant a stronger climate policy combination: ETS was binding, slightly more specific, had a slightly more ambitious scope and stronger compliance mechanisms.

How could these contrasting developments in climate policy strength be interpreted? Studies (including this) have shown that Germany did not want ETS; it was forced on Germany. The reasons were that other EU countries wanted this instrument and it was to be decided by qualified majority. Since this mainly explains why the policy instrument strength increased in the period, this thesis sought to explain the more puzzling decrease in climate ambitiousness.

*What has caused the decrease in German climate ambitiousness?* This study followed a complementary theory strategy. Explanatory factors were chosen which were believed would give a comprehensive understanding of why these changes took place. Is the reason simply increased abatement costs, or is there a need for a more complex political and institutional analysis? The discussion has shown that it is not increasing abatement costs *per se* but a German economy more vulnerable to costs (also in terms of job losses) is an important explanatory factor: it has contributed to a slight preference change – a view that ambitious climate policy is political problematic and that Germany cannot afford to lead alone. It has also led to a strengthening of Grey societal pressure groups, by strengthening their arguments.

One could expect that for a large country such as Germany, internal factors and domestic politics would be more important, while for small EU countries EU policy would be more important. However, changes in power relationship between Green and Grey forces in government cannot explain decreasing climate ambitiousness. This is because both the Green Party and the Ministry of Environment have been strengthened in the period. However, Grey societal pressure groups have become stronger and this has been an important factor in explaining the decreasing climate ambitiousness. Why have Grey forces become stronger? The increasing vulnerability of economy has been pointed out while the other important factor was the EU led liberalisation of the power market which had an unintended effect on the German power market.

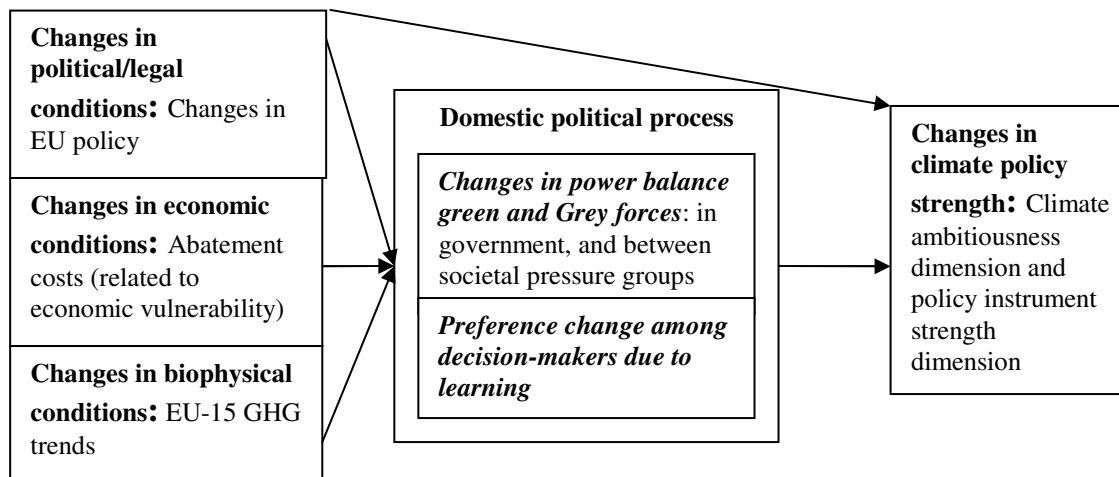
Have changes in EU policy had other impacts in this period? The EU BSA became legally binding and, without the specific intention, legitimated the abandonment of the 25% target. Furthermore, the ETS directive was vague on ambitiousness giving room for interpretation and lobbying. Moreover, the ETS instrument made the costs clearer, triggering a mobilisation of targeted groups.

Hence, overall, it seems like both worsening economic conditions and other political factors play a role. In regard to politics, it is mainly changes in EU policy that have been important. The strength of this is somewhat surprising given that Germany is a large country and generally more prone to influence than to be influenced. Moreover, it seems as though EU impacts have been mostly unintended. However, both in the case with the cap-setting and in regard to the liberalisation of the power market, much freedom was given to the Member States, and in Germany to strong industry groups strengthening their position even further. This case on Germany shows EUs problem in a nut-shell: vagueness in directive and thus increased freedom to Member States can make it easier to get a directive approved and to get it approved quickly, although this freedom has consequences for the later process.

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The purpose of this thesis has been to measure and explain changes in German climate policy strength. *Has the theoretical approach of this study shown to be useful in doing this?* In this study, a strong national climate policy is defined as one having ambitious climate targets and strong policy instruments. In order to measure policy instrument strength, Vedung's degree of authoritative force was taken as the point of departure. This was further specified, assessing the bindingness, specificity, scope and compliance mechanisms of the instrument. These four criteria are taken from international relations theory and have been used for measuring the strength of international agreements. Thus, can it be argued that these criteria are less good at measuring national policy strength? It can, for instance, be claimed that one instrument may be strong in one country, but not in another. VAs were assessed as being less strong than ETS according to these criteria, although it may be that these criteria are not particularly suited for assessing instrument strength in Germany. I will argue that this is not so. This is because the interviewees and other sources have confirmed that VAs are considered weak in Germany. Moreover, these criteria also emerged during the interviews when the interviewees were discussing these instruments.

Could another explanatory model have been used for explaining changes in national policy strength? In the final part of the analysis the factors are assessed jointly, investigating how the factors have played together in their effect on the dependent variable: German climate ambitiousness. Based on this assessment, and thus by induction, it can be argued that the model below could have been used instead.



**Figure 5-1 Explanatory model that focuses on the interplay between factors**

This model is based on the factors used in the thesis but it focuses on their interrelations. It makes a distinction between factors external to the domestic policy process and the policy process, arguing that with one exception, the external factors are not important in themselves, but become important if they lead to changes in power balance between Green and Grey forces or to learning and preference change. The exception is changes in political/legal conditions: here EU policy. This factor can also impact directly on changes in climate policy strength i.e. by directives. Moreover, in the model a distinction is made between two types of political changes: changes in power balance (assuming that the preferences are fixed) and preference change (allowing the preferences to change due to learning).

There are challenges to this model. One challenge is to distinguish between when a change happens as a result of changed preferences, and when it occurs as a consequence of strategic choice. Another challenge is complexity. There are first- and second-order independent variables and much time can be used in assessing how these are related. Moreover, there might be a time difference between the two orders. The need for simplicity will have to be assessed against that of realism (and thus validity), and a model looking at the interrelationship of factors is more realistic than one viewing them separately.

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*Are there other important developments that could have been taken into account or that will be interesting to investigate in a future study?* In 2006, it was argued that there were indications of conflicting interests between reaching the EU Lisbon strategy and the EU burden-sharing arrangement. The Lisbon agreement was adopted in 2000 and some of the main goals are to increase economic growth and decrease unemployment by the year 2010. This is the same year as the BSA target is intended to be reached. The German commissioner has argued that these targets conflict (Gullberg 2006). One of the interviewees stated “I do not think that it [the Kyoto target] will be compatible with other targets the community have” (Interview). When asked to specify the interviewee mentioned the Lisbon targets (ibid.). It could have been interesting to know when this view arose and if it is shared by many German stakeholders. Moreover, it would be interesting to see what will happen with BSA vs. Lisbon strategy in the future.

## 6 Epilogue

Can the findings of this study contribute to shedding light on a quite dramatic event that took place this year? In May 2006 the EU emissions trading scheme was thrown into chaos when the verifier reports came in showing that most of the EU countries had a surplus of CO<sub>2</sub>-allowances. This led to a sudden price fall (EU Energy 2006). Accusations were that countries had systematically over-allocated allowances (ENDS Daily 2006). Germany was among the countries that had a surplus of allowances. BMU argued that a little less than half of the surplus was due to actual emission reductions, maintaining that the ETS was functioning. The rest was mainly due to special allocation rules in the NAP (BMU 2006a). Since Germany is one of the largest EU countries and very important for the EU ETS market, it is important to look into why one was given all of these special provisions.

As with the cap, the ETS directive can be argued to be vague on allocation rules and rule combinations. The ETS directive stated that the allocation should be made according to objective and transparent criteria. However, it contained different types of rules: some rules were mentioned as mandatory and others as optional (European Commission 2003: Annex III). It gave much freedom to countries regarding choice and combination of rules as long as the mandatory rules were there. This freedom enabled “gaming” between and within countries. As has been pointed out, industry lobbied hard in the German NAP-process. Different branches lobbied for different special provisions and the result was many special provisions in the NAP and an Allocation Law providing opportunity for rule combinations, making the system complex and decreasing the transparency<sup>62</sup>. How can the influence of industry be explained? This thesis points out that the liberalisation of the power market in Germany contributed to a strengthening of the power industry’s lobby position.

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<sup>62</sup> A total of 58 different combinations of the allocation rules were used in the applications (Umweltbundesamt/DEHSt 2005:13).



Moreover, a slight preference change among decision-makers (that an ambitious policy was not realistic and that Germany should not lead alone) took place due to a German economy more vulnerable for costs in terms of job-losses, and this contributed to a strengthening of the industry's arguments.

Hence, it can be argued that this also illustrates the EUs problem in a nut-shell: vagueness's in directives enables directives to be adopted and adopted quickly, but it also gives room for interpretation and "gaming" between and within countries. The industry's lobby in Germany was successful given industry's relatively strengthened position and a policy climate more prone to listen to industry's arguments.

The special rules should not lead to a cap-increase. Hence, companies which did not combine allocation rules received less allowances, and a quite substantial redistribution took place. The special provisions nevertheless led to some over-allocation, as was confirmed by BMU.

## Interviews

<b>Interviewee</b>	<b>Position</b>	<b>Place/Time</b>
Diekmann, Jochen	Energy, Transport and Environment, <i>DIW Berlin</i>	Berlin, March 23 2006
Erle, Franziska	Liason Office (parliament/ federal government) <i>VCI</i>	Berlin, March 21 2006
Genz, Daniel	Politics and Public <i>Vattenfall Europe</i>	Berlin, March 20 2006
Hein, Joachim	Climate referent, <i>BDI</i>	Berlin, March 20 2006
Hükelheim, Katharina	Division KI 1 6 Climate Change Program of the Federal Government, Environment and Energy, <i>BMU</i>	Berlin, March 22 2006
Kopp, Matthias	Financial Sector & Energy, WWF	Berlin, March 22 2006
Mez, Lutz	Executive Director Environmental Policy Research Centre, <i>Free University</i>	Berlin, March 21 2006
Ott, Herman E.	Head Berlin Office, <i>Wuppertal Institute for Climate, Environment and Energy</i>	Berlin, March 17 2006
Seiche, Matthias	Head Climate Protection, <i>BUND</i>	Berlin, March 20 2006
Treber, Manfred	Senior Adviser Climate/Transport, <i>Germanwatch</i>	Bonn, March 15 2006
Werner, Klaus	Representative <i>E.ON</i>	Berlin, March 23 2006

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